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ABHYAAS MAINS

सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2033)

निर्धारित समय: **तीन घंटे**
Time Allowed: ***Three Hours***

अधिकतम अंक: **250**
Maximum Marks: ***250***

सामान्य अनुदेश

इस प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका में 55+1 पृष्ठ हैं। प्रश्न-पत्र, क्यू.सी.ए. पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरांत अपने साथ ले जा सकते हैं।

रफ कार्य के लिए, इस पुस्तिका के अंत में खाली पृष्ठ दिया गया है।

पुस्तिका प्राप्त होने पर, कृपया यह जांच कर लें कि इस क्यू.सी.ए. पुस्तिका में कोई कमी न हो, फटा हुआ पृष्ठ न हो अथवा कोई पृष्ठ गायब न हो इत्यादि। यदि ऐसा हो, तो इसके बदले नई क्यू.सी.ए. पुस्तिका प्राप्त कर लें।

General Instructions

This Question-Cum-Answer (QCA) Booklet contains 55+1 pages. Question Paper in detachable form is available at the end of the QCA Booklet which can be taken away by the candidate after examination.

For rough work, blank page has been provided at the end of this Booklet.

On receipt of the Booklet, please check that this QCA Booklet does not have any shortcomings, torn or missing pages etc. If, so, get it replaced with a fresh QCA Booklet.

(उम्मीदवार द्वारा भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 998375

अभ्यर्थी का नाम/Name of Student : NITISHA THAKWANI

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENG

तारीख
Date

19-12-21

सामान्य अध्ययन (प्रश्न पत्र-III)
GENERAL STUDIES (Paper III)

केंद्र
Centre

Rajendra Nagar

निरीक्षक के हस्ताक्षर
Invigilator's Signature

P. Patel

test code : 2033

	महत्वपूर्ण अनुदेश **उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।**	**Important Instructions** **Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.**
1	(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण सं., मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet
2	अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।	Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.
3	परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4	उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।	Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.
5	उत्तर स्याही में ही लिखें। उत्तर लिखने के लिए पेंसिल का उपयोग न करें, हालांकि आरेख, चित्र इत्यादि बनाने के लिए पेंसिल का उपयोग किया जा सकता है।	Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.
6	प्रवेश पत्र में उल्लेख किए गए माध्यम के अलावा अन्य किसी माध्यम में उत्तर न लिखें। अधिकृत और अनधिकृत की मिली जुली भाषा का भी उपयोग न करें।	Do not write answers in medium other than the authorized medium in the Admission Certificate. Do not use mixed language either i.e. authorize and unauthorized media together for writing answers.
7	प्रश्नों के उत्तर ठीक उसके नीचे दिए गए निर्धारित स्थान पर ही लिखें। निर्धारित स्थान के अलावा किसी अन्य स्थान पर लिखे गए उत्तर का मूल्यांकन नहीं किया जाएगा।	Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.
8	यदि आप अपने किसी उत्तर को रद्द करना चाहते हैं तो उसे पेन से काट दें तथा उस पर "रद्द" लिख दें, अन्यथा उसका मूल्यांकन किया जा सकता है।	If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.

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परीक्षक के हस्ताक्षर Signature of Examiner(s)	

प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))

प्रश्न सं. Q. No.	अंक Marks		प्रश्न सं. Q. No.	अंक Marks	
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		
उप-योग (A) Subtotal (A)			उप-योग (B) Subtotal (B)		
सकल योग (A+B) / GRAND TOTAL (A+B)					

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सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2033)

निर्धारित समय: तीन घंटे Time Allowed: Three Hours	अधिकतम अंक: 250 Maximum Marks: 250

प्रश्न-पत्र संबंधी विशेष अनुदेश

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

*कुल **बीस** प्रश्न दिए गए हैं जो **हिंदी** और **अंग्रेजी** दोनों में छपे हैं।*

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।

प्रश्न संख्या 1 से 10 तक का उत्तर 150 शब्दों में तथा प्रश्न संख्या 11 से 20 तक का उत्तर 250 शब्दों में दीजिए।

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गए कोई पृष्ठ अथवा पृष्ठ भाग को पूर्णतः काट दीजिए।

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

*There are **TWENTY** questions printed both in **HINDI** and in **ENGLISH**.*

All questions are compulsory.

The number of marks carried by a question/part is indicated against it.

Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.

Answers to Questions No. 1 to 10 should be in 150 words, whereas answers to Questions No. 11 to 20 should be in 250 words.

Keep the word limit indicated in the questions in mind.

Any page or portion of the page left blank in the Questions-cum-Answer Booklet must be clearly struck off.

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EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

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1. भारत में कृषि प्रसार से सम्बद्ध मुद्दों का उल्लेख करते हुए, राष्ट्रीय कृषि अनुसंधान प्रसार प्रणाली को सुदृढ़ बनाने में कृषि विज्ञान केंद्रों (KVKs) की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

Stating the issues associated with agricultural extension in India, discuss the role of Krishi Vigyan Kendras (KVKs) in strengthening the national agricultural research extension system. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Agricultural extension Service refer to the end-to-end support provided to farmers from the stage of pre-production like soil health, demand to post production like marketing service etc.

Issues associated with agri-extension

I) Infrastructural issues

i) limited technological progress : leading to ~~to~~ limited coverage of farmers

ii) limited internet penetration : causing the small and ~~of~~ marginal farmers being left behind

~~II)~~ iii) Digital divide : between rich and poor farmers

II) Digital Illiteracy → Lack of use of digital knowledge among farmers
→ limited benefits due to lack of availability

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III) Policy issue → Farmers not provided adequate legislative support
→ Focus on certain crops procurement leading to production skewedness

Role of Krishi Vigyan Kendra (KVK)

i) Mission mode ~~investment~~ investment in research and development → Currently only 0.67% of investment is made ~~ag~~ on agriculture

ii) Support to small and marginal farmers
Over 85% of farmers are small & marginal

iii) Demand centric approach - According to the needs of the farmers.

iv) Technological advancement : by IDEA (Indian digital ecosystem for agriculture) under which AGRISTACK will provide end to end service

As agriculture employs 50% of the population the need to support them through agri-extension service will help in ~~provid~~ 'doubling farmer's income' by 2022

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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2. भारत में, खाद्य प्रसंस्करण क्षेत्रक मूल्य संवर्द्धन की अपार संभावनाओं के कारण एक उच्च संवृद्धि और उच्च लाभ के क्षेत्रक के रूप में उभर रहा है। चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

In India, the food processing sector is emerging as a high-growth and high-profit sector due to its immense potential for value addition. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Food processing sector (FPS) is known as the sunrise sector, as it employs around 1.93 mn people, annual growth rate is 10% and contribute to total 10% of India's export by volume

FPS – High growth & high profit sector

i) Potential for value addition →

> Processing of food → attract higher revenue : Eg: price of tomato vs tomato ketchup

ii) Nutritional security : Eg: fortification of rice with vitamin A

iii) Increase the shelf life of products reduce the cases of food wastage. According to UN – 40% of food is wasted due to lack of transportation

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(iv) Double farmer's income – According to Dalwai committee, investment in food processing will enhance income and achieve the target of doubling farm income by 2022.

v) Right price and right market → According to MS Swaminathan, farmers need right market achieved through FPS

vi) Diversification of production: will reduce distress sale, glut in the market, Eg: tomato overproduction

Issues
- Supply side
  - Lack of awareness among farmers
  - Distrust
- Demand side
  - Lack of trust among consumers
  - Tastes and preferences
    Eg: demand for raw mango over processed mango

Thus, to realize full potential of FPS, need to increase awareness, along with schemes like PM-Kisan Sampada – Mega Food Parks will aid in making agri more remunerative.

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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3. पशुधन आधारित एकीकृत कृषि प्रणाली (IFS) की अवधारणा की व्याख्या करते हुए, इसके लाभों पर चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

Explaining the concept of livestock-based Integrated Farming System (IFS), discuss its benefits. (Answer in 150 words) 10

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए

Candidates must not write on this margin

Livestock-based Integrated Farming System (IFS) refers to the end-to-end integration of farming with the use of livestock ~~for~~ along with traditional mode of crop cultivation.

Characteristics of livestock based IFS

i) Use of livestock – India has the largest population of cattle and goat in the world. Indian use kind make ~~it~~ ~~agri~~ farming more remunerative.

ii) Reduce drudgery : with the use of livestock

iii) Aid to small and ~~far~~ marginal farmers

Around 86% of farms are small & marginal, who cannot utilize big machines

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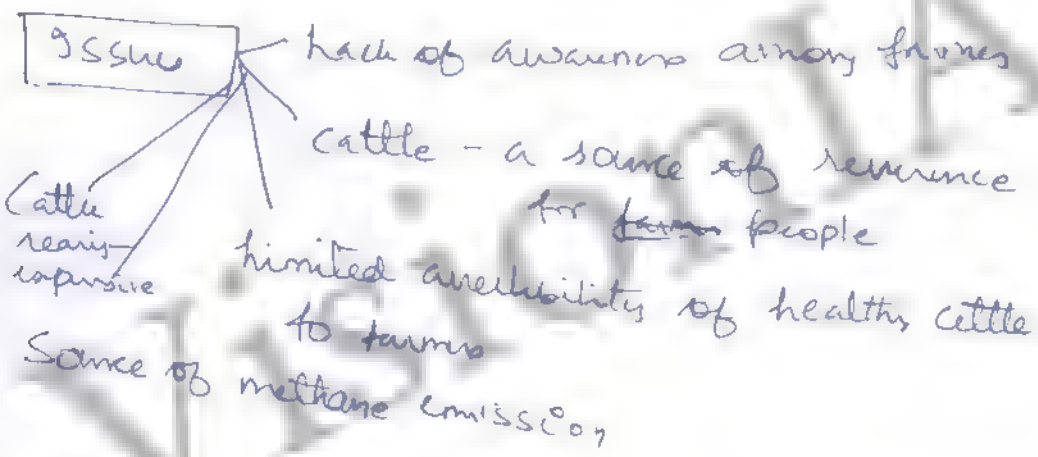
(iv) Reduce methane emission → cattle are the largest source of methane emission, a green house gas, through green fodder

v) Natural fertilizer - Cow dung & manure can reduce dependency on fertilizer

vi) Push to Zero Budget Natural Farming - advocated by PM Modi at a summit in Gujarat in Dec 2021



With government support and community participation, the livestock-based Integrated farming can achieve NITI Ayog's vision of making agriculture more remunerative, increase productivity, ~~increase~~ rural incomes and land reform.

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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4. जहाँ भारतीय मूल के व्यक्ति (PIO) विश्व भर में उद्यमिता का नेतृत्व कर रहे हैं, वहीं भारत में अभी भी उद्यमिता दर सबसे कम है। चर्चा कीजिए। साथ ही, भारत में उद्यमिता की गति को बढ़ाने के लिए उठाए गए नीतिगत उपायों का भी उल्लेख कीजिए। (उत्तर 150 शब्दों में दें)

While Persons of Indian Origin (PIO) are spearheading entrepreneurship across the world, India still has one of the lowest entrepreneurship rates. Discuss. Also, state the policy measures that have been taken to increase the pace of entrepreneurship in India. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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PIO are individuals who have ~~connecti~~ parent or grandparent of Indian citizenship, but ~~are Stays~~ have not opted for Indian citizenship

PIOs like Parag Agarwal, the CEO of twitter, Satya Nadella of Microsoft, Sundar Pichai of Google have made India proud, however, highlighted the issue of 'brain drain'.

India - low rate of entrepreneurship

i) Gaps in education and skill development

Higher education institutions continue to remain dormant and have not featured in global rank under top 10.

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(ii) Rigid education system with limited scope for interdisciplinary ~~edu~~ education

(iii) Gap between demand and supply. With limited interaction with the industry requirement

iv) Lack of risk taking aptitude - and more focus on stable income job

v) Limited support to those who wish to start a venture → no income or security for risk taking behavior

Steps taken

i) Start up India Seed fund scheme - To provide support to entrepreneurs.

ii) Delhi govt initiative of Business blasters to support budding entrepreneur

iii) Reform in National Education Policy to provide for multidisciplinary course

ii) Focus on higher education enrolment ratio to be 50% by 2035

v) Establishment of IOE (Institute of Eminence)

These steps will make India a global hub of entrepreneurs.

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
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5. 'भूमि बैंक' अर्थव्यवस्था को प्रोत्साहन देने और भारत में व्यापार सुगमता (ईज ऑफ डूइंग बिज़नेस) को बढ़ावा देने में महत्वपूर्ण भूमिका निभा सकते हैं। चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

'Land banks' can play a critical role in boosting the economy and promoting ease of doing business in India. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Land Banks refer to banks that acquire unclaimed land and redirect it for useful purpose like pasture, cultivation, etc

Role in Economy

i) Improve cultivation. As 59% of land is under agriculture

ii) Provide green fodder to pastures

iii) Increase yield of agriculture

Ease of doing business

i) Quick clearance for activities like construction

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(ii) Decrease red tapism

(iii) Incentivize private players

Thus, as advocated by NITI@75, land ~~set~~ banks will help in EODB and boost the economy to become $5tn economy by 2022

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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6. वन संरक्षण अधिनियम (FCA) में प्रस्तावित संशोधन, न केवल वन अधिकार अधिनियम (FRA) के विपरीत हैं, बल्कि इनके कारण भारत को जलवायु परिवर्तन पर अपनी प्रतिबद्धताओं को प्राप्त करने में देरी होने की भी संभावना है। चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

The proposed amendments to the Forest Conservation Act (FCA) are not only antithetical to the Forest Rights Act (FRA), but are also likely to delay India achieving its commitments on climate change. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

FCA, 1980 was formulated to put the subject of forests under the concurrent list to provide power to the Centre to make laws for international commitments

Proposed amendments

i) Land clearance to be provided for strategically important development projects

ii) No consultation with the local tribes / government before getting the clearance

iii) ~~For~~ Post facto clearance if a revised document is provided

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(iv) Lack of stakehold consultation

Antithetical to FRA

> Rights of livelihood violated

> No grievance redressed

> limited voice to tribals etc

India's commitment to become Carbon neutral by 2070 as announced at COP26 will be delayed due to this.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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7. शहरी क्षेत्रों में बाढ़ की समस्या न केवल नदियों के उफान के कारण है, बल्कि उन अनियोजित तरीकों के कारण भी है जो हमारे नगर, शहरीकरण की प्रक्रिया में अपना रहे हैं। चर्चा कीजिए। इस संदर्भ में, शहरी बाढ़ पर राष्ट्रीय आपदा प्रबंधन प्राधिकरण के दिशा-निर्देशों का उल्लेख कीजिए। (उत्तर 150 शब्दों में दें)

The problem of flooding in urban areas is not only due to overflowing rivers, but also the uninformed ways in which our cities are coping with urbanisation. Discuss. In this context, mention the National Disaster Management Authority guidelines on urban floods. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में कुछ लिखना नहीं Candidates must not write on this margin

Urban floods refers to the water accumulation in urban area due to blockage of river flow on account of unsustainable planning, e.g. Chennai floods, Mumbai flood

Causes

i) Unsustainable construction without proper planning

ii) Poor environment Impact Assessment

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iii) Lack of stakeholder discussion

iv) Non-empowerment of local bodies.

NDMA guidelines

i) Proper Planning

ii) Early warning system

iii) Mitigation funds

iv) Relocation

v) GIS mapping of area

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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8. इसरो अब केवल उपग्रहों के प्रक्षेपण तक ही सीमित नहीं है, बल्कि यह वर्षों से विकास गतिविधियों में अपनी भूमिका को लगातार बढ़ा रहा है। विवेचना कीजिए। (उत्तर 150 शब्दों में दें)

ISRO is no longer confined only to the launching of satellites, but it has been constantly enlarging its role in development activities over the years. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस क्षेत्र में [redacted] चाहिए

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ISRO is the Indian space agency that aims to create satellite and regulate space infrastructure

Enlarged role in development

i) GIS mapping : eg: Swamitva scheme

ii) Gaganyaan mission with Airport Authority of India

iii) Remote technology to provide security information to Central armed police force

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(iv) ~~Techn~~ Private player involvement through INSPACe, etc

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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9. राज्य और गैर-राज्य अभिकर्ताओं द्वारा महत्वपूर्ण सूचना अवसंरचना (CII) को लक्षित करने के पीछे उत्तरदायी कारणों को बताइए। साथ ही, भारत सरकार द्वारा अपने CII को सुरक्षित करने के लिए उठाए गए कदमों पर भी चर्चा कीजिए। (उत्तर 150 शब्दों में दें)

State the reasons behind targeting of Critical Information Infrastructure (CII) by state and non-state actors. Also, discuss the steps taken by the Indian government to secure its CII. (Answer in 150 words) 10

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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Critical Information Infrastructure (CII) refer to the physical infrastructure whose dysfunctions may cause social, economic political issues

Reasons for target

i) 5th dimension of warfare cyber space

ii) More effective than a traditional warfare. Eg: stuxnet in Iran nuclear power plant

iii) Cost effective

iv) No traceability keeps the attackers

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identity anonymous

Steps taken

I) Institutional steps

- CERT-In
- NCIIPC
- Swachh Centers

II) Policies

- Ban on Chinese APPS under IT Rules
- Hardwa- ~~Hardwa~~ ban
  Eg: Huawei.

III Awareness generation

~~by~~ to Community through campaigns, etc

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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10. पूर्वोत्तर भारत के रणनीतिक महत्व के बावजूद, इस क्षेत्र को कई सुरक्षा खतरों का सामना करना पड़ता है। चर्चा कीजिए। साथ ही, क्षेत्र में शांति और स्थिरता सुनिश्चित करने के लिए सरकार द्वारा उठाए गए कदमों का भी उल्लेख कीजिए। (उत्तर 150 शब्दों में दें)

Despite the strategic significance of North-East India, the region faces several security threats. Discuss. Also, state the measures taken by the government to ensure peace and stability in the region. (Answer in 150 words) 10

उम्मीदवारों को इस क्षेत्र में [redacted]

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The north-East India is the 'door' to connectivity to the South East Asia, this makes it strategically significant

Security threats

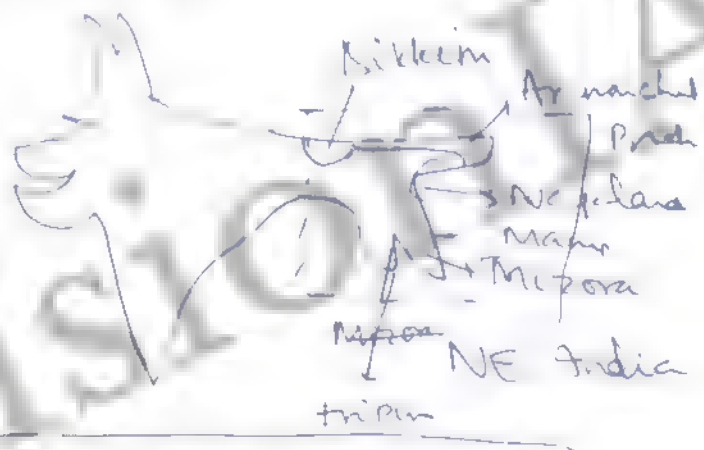

Fig Map of NE India

i) Porous borders like Bangladesh leading to migrants entry illegally

ii) Chinese incursions in Arunachal Pradesh

iii) Insurgency like in Nagaland by NSCN, etc

(iv) Issues related to transboundary rivers

v) Drug trafficking from Golden triangle of Myanmar-Thailand and Laos

Steps by govt

i) SMART borders under Comprehensive integrated borders mgmt system (CIBMS)

ii) Used of technology like LIDAR to prevent illegal migration

iii) Diplomatic level talks like with Nagaland insurgent groups

iv) Use of AFSPA in extreme cases to maintain peace & territorial security.

Thus, to protect NE region these steps will help in ensuring peace and stability in region

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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11. भारतीय रेलवे को लंबे समय से अल्प निवेश की समस्या का सामना करना पड़ा है, जिसने इसके परिचालन के प्रमुख क्षेत्रों पर प्रतिकूल प्रभाव डाला है। इस संदर्भ में, बुनियादी ढांचे के तीव्र निर्माण में रेलवे के समक्ष आने वाली चुनौतियों पर चर्चा कीजिए। साथ ही, इस संबंध में सरकार द्वारा उठाए गए कदमों का भी उल्लेख कीजिए। (उत्तर 250 शब्दों में दें)

Indian Railways has suffered from chronic under-investment, which has adversely impacted key areas of its operations. In this context, discuss the challenges faced by the railways in speedy creation of infrastructure. Also, mention the steps taken by the government in this regard. (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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Railways is considered to be the backbone of Indian economy due to its role in integrating the markets passenger travels, freight transport and provide last mile connectivity in multi model transportation

(Challenges faced by railways)

i) Chronic under-investment leading to huge losses

ii) Cross subsidizing : Making freight transport not remunerative

iii) Passenger transport : Indian Railway is the largest mode of passenger transport however is marked by poor service

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(iv) Dependence on coal makes it climate non-friendly

v) ~~Det~~ limited capacity to deal with high burden of freight

vi) hard acquisition issue to lay down tracks

vii) Displacement issue and resettlement of the displaced population

Steps by Government

1) Bibek Debroy Committee to merge all Indian Railway Services for centralized planning

2) Electrification of railway tracks to reduce dependency on coal

3) Invitation to private players in passenger segment to operate on public rails

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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4) Reduce the issue of cross subsidization

5) Dedicated freight corridors (DFCs) and Industrial corridors

All these steps will help in making railways more efficient & create infrastructure

उम्मीदवारों को इस क्षेत्र में कोई लिखना नहीं
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12. किसानों की आय को दोगुना करने के भारत के उद्देश्य को साकार करने हेतु कृषि प्रणाली के अंतिम बिंदु तक के दायित्वों पर ध्यान देने के साथ अनुसंधान और विकास (R&D) के लिए एक परिवर्तनकारी दृष्टिकोण आवश्यक है। विवेचना कीजिए। (उत्तर 250 शब्दों में दें)

A disruptive approach to research & development (R&D), with a focus on last mile obligations of the agricultural system is necessary to realize India's objective of doubling farmer's income. Discuss. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में कुछ लिखना नहीं चाहिए
Candidates must not write on this margin

To double the farmer's income by 2022 the government has set up Ashok Dalwai committee, which has suggested focus on R&D and last mile obligation of agriculture system to double farmer's income

B) Disruptive approach to R&D

i) Enhance productivity thus, ~~making~~ increasing yield and thus income.

eg. use of soil health card to plant those crops that have high yield according to the suitability of crop.

ii) AI-based agriculture - ~~to lead to~~ eg precision use of irrigation according to the needs of the soil & crop

iii) Apps like PM-Sunidhi will provide information related to best practices on the basis of climate, soil condition etc.

iv) AGRISTACK under the umbrella of IDEA will help in integrated farmers through support from pre-production & post production

v) Agri-Insurance like PM Fasal Bima Yojna to calculate the premium through technological support

vi) Climate smart agriculture : to deal with vagaries of climate As 48% of agri area is rainfed dependent

Last mile connectivity

1) Accordi to Ms Swaminathan farmers need two things — Price right
Market right

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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2) support like e-NAM help in reduction of information asymmetry

3) Prevent agri distress sale due to supply shut

4) Smart contracts through blockchain technology will help in providing assurance to farmers

Issues
- Limited awareness
- Infra gaps
- Digital illiteracy
- Technology divide
- Issues in policy implementation
- Exploitation by middlemen

As agriculture support 48% of Indian population, need to increase R&D and last mile connectivity will fulfil mandate of FAO
- Better income
- Better products
- Better relief
- Better standard of living

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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13. भारत की विद्युत वितरण कंपनियों और विद्युत ग्रिड को जीवाश्म ईंधन से अक्षय ऊर्जा के अधिक संधारणीय रूपों में संक्रमण हेतु सुधारों से गुजरना होगा। चर्चा कीजिए। (उत्तर 250 शब्दों में दें)
India's power distribution companies and electrical grids must undergo reforms to transition from fossil fuels to more sustainable forms of renewable energy. Discuss. (Answer in 250 words) 15

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
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According to Ministry of power, out of total electricity installed capacity of 350 GW, 51% is from coal and other fossil fuel, making India the 3rd largest emitter of green house gas.

Transition from fossil fuel - Need

i) High green house gas emissions - leading to climate change and deleterious impact like melting of glaciers, rise in sea level thus increasing the vulnerability

ii) International commitment: India's 5 commitments at Glasgow-26:

> Renewable energy = 50% by 2030
> Non Fossil fuel energy = 500GW by 2030
> Reduction in carbon emission intensity by 50% in 2030
> Reduction in emission by 1 bn tonnes

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> net neutrals by 2070

(iii) Coal issues

> Despite being the 4th largest coal reserves India imported 235mn tonnes and ~~to~~ expenditure of ₹1.71 lac crore in FY2020

> Coal shortage led to power ~~sho~~ outage

> Rise in demand : Accordg to UN report India's population is set to ~~rise~~ overtake China's by 2050 - leadg to rise in demand

(iv) Sustainability of clean source of energy like sun, wind - India is blessed with sun's energy availability due to its geographical location

Issues

i) Limited technological development leadg to slow development of alternative technologies like sun, wind

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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ii) Financial Crunch – health risk fiscal deficit which has 9.8% in FY20. fund allocation for advancement is limited

iii) Sustainability of grid – due to varying rays of sun, and wind energy and weather variations

iv) International funds not provided by developed countries despite commitments
Eg: $100bn in Paris Summit in 2015

v) Industry led growth model – which will lead to rise in demand for energy will be met through coal.

vi) Infrastructure gaps like charging stations have not been properly developed.

Initiatives like FAME, PM-KUSUM, and international initiative like One grid-One sun will help in achieving India's targets at COP26

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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14. भारत में आगत-सघन (इनपुट इंटेंसिव) कृषि की प्रथा में, इसकी अस्थिरता और नकारात्मक परिणामों के कारण, बृहद पैमाने पर बदलाव की आवश्यकता है। इस संदर्भ में, निम्न बाह्य आगत संधारणीय कृषि (LEISA) के महत्व पर चर्चा कीजिए। (उत्तर 250 शब्दों में दें)

The practice of input-intensive agriculture in India needs a massive overhaul due to its unsustainability and negative consequences. In this context, discuss the significance of Low External Input Sustainable Agriculture (LEISA). (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Low external Input Sustainable Agriculture (LEISA) aims to overhaul the input intensive agriculture like high use of chemical fertilizers, flood irrigation to low input like precision farming to enhance sustainability in agriculture

Need for Overhaul

I) Farm side issues

i) High Cost: makes agriculture less remunerative as accordg to the latest situation assessment Survey, farmers earns only 40% of farm cultivation.

ii) Fragmented landholdings: with average size of 1.15 Ha, use of chemicals, ~~water~~ flood does not lead to proportional rise in yield.

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(iii) Decrease in yield in the long run : due to loss in the natural ability of soil replenishment

II) Environment Issues

i) Surface runoff leads to chemical ~~pollution~~ flow from field to water bodies

ii) Methane release : Agriculture is the highest contributor of methane a greenhouse gas

iii) Reckless use of water leads to decrease in groundwater levels

iv) Contamination of groundwater affects health of environment

III) Government Issues

i) Rise in subsidies - ~~loss~~ Around ₹4.2 lac crore is the subsidy on food and fertilizer, leading ↑ fiscal deficit

ii) International pressure at WTO to reduce trade distorting subsidies

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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(iii) Decrease in productivity - leads to long term future impact on welfare scheme like PDS

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Significance of LEISA

i) Decrease cost of production : Making agriculture more productive

ii) Protect environment through precision farming and Climate smart agriculture

iii) Enhances productivity

iv) Promotion of Zero Budget Natural Farming (ZBNF) as advocated by Dr Palekar has 4 components
- Bijamrita → micro bio seeds
- Jivamrita – natural humus
- Waapsa – humus in soil
- Mulching – to prevent evaporation & water conservation

Thus with PM Modi's clarion call to move agriculture from the lap of chemical laboratory to 'lap of nature's laboratory' will make agricultural practice more sustainable.

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15. हाल ही में जारी IPCC की छठी आकलन रिपोर्ट (AR6) – 2021 को मानवता के लिए 'कोड रेड' माना गया है। इस संदर्भ में, भारत पर विशेष ध्यान देते हुए इस रिपोर्ट में उजागर की गई विभिन्न चिंताओं की विवेचना कीजिए। साथ ही, इस रिपोर्ट द्वारा प्रदत्त उपचारात्मक उपायों को भी सूचीबद्ध कीजिए। (उत्तर 250 शब्दों में दें)

The recently released IPCC Sixth Assessment Report (AR6) – 2021 has been deemed as 'code red' for humanity. In this context, discuss the various concerns raised in the report with special focus on India. Also, enlist the remedial measures given by the report. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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According to UN Sec General, the 6th IPCC report is 'Code red for humanity' since it highlights that planet Earth is headed towards 2°C rise in temperature by 2050 if the current methods of use of energy, industrial production is not altered.

Concerns in the Report

1) Need for net ~~neut~~ carbon neutrality by 2050 to ~~prevent~~ achieve the target of limit to 2°C

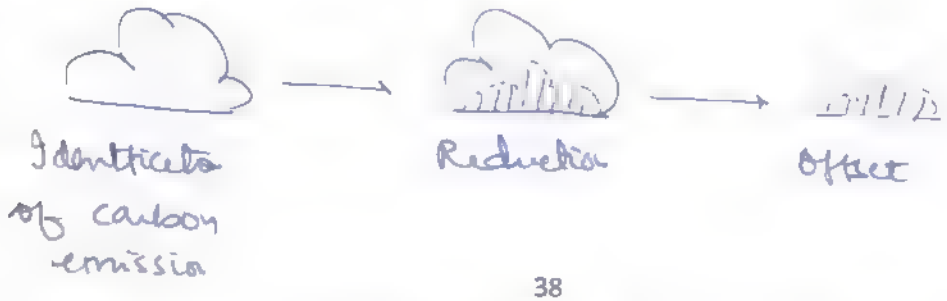

FIG: Method of Carbon neutrality

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iv) Rise in sea levels - with India having a coastline of 7500 km, the coastal area remain highly vulnerable. specially SIDS (small island developing states)

(iii) Melting of glaciers As India shares area of the 'Third Pole', melting of glacier can cause disasters like Glacier Lake outburst flood (GLOF), etc

ii) Warming up of Arabian sea has made the western states more vulnerable to cyclones

v) Erratic monsoons : Monsoons will be more intense and for shorter duration affecting the 59% of area of cultivation that is rain dependent

vi) Impact on agriculture : with 45% of population employed in agriculture, vulnerability will increase

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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Steps suggested by the report

i) Net carbon neutrality by 2050 : India committed to neutrality by 2070 at the Glasgow COP26 summit of UNFCCC.

ii) Shift to renewable energy. India committed to 50% of energy from renewable energy

iii) Climate smart agriculture : like precision agriculture; PM Modi's call for Zero Budget Natural Farmer (ZBNF) is a step in right direction

iv) Climate smart cities : Smart Cities mission 2.0 focuses on climate smart ~~agriculture~~ cities to control issues like urban ~~fut~~ flooding

Thus, with these steps, along with recommendations of TERI like green building, climate resilient infrastructure and India initiative like One Sun One World One Grid & Infra Resilient for Island state (IRIS) India can achieve SDG Goal 7 & 10 of climate neutrality.

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
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16. भोपाल गैस त्रासदी से लेकर विशाखापत्तनम में गैस रिसाव तक कई रासायनिक आपदाओं ने भारत में खतरनाक रसायनों (HAZCHEM) द्वारा उत्पन्न जोखिमों को ध्यान में लाया है। इसके दृष्टिगत, भारत में रासायनिक आपदा प्रबंधन (CDM) की तैयारियों के साथ-साथ इसमें व्याप्त कमियों की भी विवेचना कीजिए। (उत्तर 250 शब्दों में दें)

Multiple chemical disasters from the Bhopal gas tragedy to gas leak in Visakhapatnam have brought into focus the risks posed by hazardous chemicals (HAZCHEM) in India. In view of this, discuss the preparedness as well as gaps in Chemical Disaster Management (CDM) in India. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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The release of Methyl Isocynate in Bhopal in 1985 and release of Styrene gas leak in Vishakhapatnam has had debilitating impact on both human health and the environment

Such instances call for preparedness of chemical disaster mgmt (CDM)

Preparedness in CDM

i) Transboundary shipment of chemicals rules mandate the safe movement of chemicals from one place to another

ii) International agreements like Rotterdam Convention for safe disposal and use of chemicals.

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(iii) Environment Impact Assessment (EIA) to deal with cases of ~~risks~~ projects related to environment impact

iv) Setting of tribunal - NGT - to ~~pro~~ take suo moto cognizance of chemical leaks

v) Awareness generation among communities to deal with issue of chemical leakage

vi) Post disaster support - through NDRF and ore allocation along with reduction of impact of disasters.

Gaps in CDM

i) Lack of proper implementation of the rules due to ambiguity

ii) Limited awareness among the communities to deal with disasters of chemical leakage

उम्मीदवारों को इस हाशिए में, नहीं लिखना चाहिए
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(iii) Exploitation of vulnerable section by

Eg. Bhopal plant was set up in an area where villagers had limited knowledge

iv) limited assessment of project done leading to low due diligence and poor anticipation of impact

Way forward

Community empowerment

local bodies should be given power to approve projects

Role of Supreme Court in checking of reckless developmental activities

Adherence to international commitments both in letter & spirit

~~But~~ Human health is of utmost importance, which requires mandatory checks and balances, along with proper due diligence to environmental projects

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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17. महामारी के समय सार्वजनिक स्वास्थ्य से संबंधित वस्तुओं और सेवाओं के उदारीकरण की बढ़ती मांग ने वर्तमान बौद्धिक संपदा व्यवस्था के संबंध में महत्वपूर्ण मुद्दों को उठाया है। विवेचना कीजिए। (उत्तर 250 शब्दों में दें)
The growing demand for liberalisation of public health-related goods and services amidst the pandemic has raised critical issues with regard to the current intellectual property regime. Discuss. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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According to the Economic Survey 2020 the covid pandemic is a 'once in a Century' event, that has led to change in various aspects of healthcare including demand for liberalization of public health-related goods and services

Demand for liberalization - Rationale

i) At WTO, India and South Africa - led the demand for relaxation in TRIPS - that provide patent to for intellectual property

ii) Vaccine inequity - With some countries not able to develop vaccines, they remained more vulnerable to pandemic

iii) Vaccine nationalism - to countries focused vaccination for own citizens over larger picture of equitable distribution

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iv) Globalization - has made the world flat. According to UN Secretary General 'Pandemic cannot end anywhere if it ends everywhere'

v) Misuse of vulnerability by private players leading to black marketing, unreasonably high price of vaccines, etc

Issues with IPR

i) Prioritization of Intellectual rights over health leading to death and health related vulnerabilities in poor countries

ii) Tool for private players to leverage the demand by controlling the production to artificially increase price

iii) Evergreening of patents - leading to endless patent rights as against maximum 20yrs of patent rights

iv) Product vs process patent - small variation

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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in process - leads to grant of patents beyond the threshold period of 20 years

Balance between IPR and human ~~to~~ health

i) Provision of compulsory licencing to the Govt to allow for production by other players

ii) Proper regulation by WTO to prevent 'evergreening' of patents

iii) Pacts between countries to enhance production : Eg. Covishield production by Serum Institute of India with AstraZeneka

iv) International alliance like GAVI to provide equitable distribution of vaccines

v) Vaccine diplomacy by India to provide vaccines to neighbours like Srilanka, Bhutan

No cost is high enough to protect the lives of human beings. Thus, priority to human health should be the aim of International Community

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
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18. भारत में रक्षा प्रौद्योगिकियों के स्वदेशीकरण में उप-इष्टतम परिणामों के लिए उत्तरदायी कारणों पर प्रकाश डालते हुए, उन उपायों का सुझाव दीजिए जो रक्षा क्षेत्र में स्वदेशीकरण की गति को तीव्र कर सकते हैं। (उत्तर 250 शब्दों में दें)

Highlighting the reasons behind suboptimal results in indigenization of defence technologies in India, suggest measures which can accelerate the pace of indigenization in the defence sector. (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Indigenization of defence technologies refer to the use and promotion of home grown defence equipments to become self reliant, reduce current account deficit (CAD) and promote exports to earn foreign currency

Suboptimal result in indigenization

i) Lack of technological progress limited progress in technology led to high dependence on countries like USA, Russia, France

ii) limited capital expenditure on building home grown equipments due to widening fiscal deficit (9.8% in FY2020) and high gestation period

iii) lack of private participation due to distrust and limited incentives for private players

iv) low on priority. Issues like welfare of poor, etc in on top priority, while limited capital allocation for indigenization

v) Improper policy planning to provide impetus to the growth of defence indigenization

vi) Inter-ministry coordination is ~~poor~~ limited as coordination b/w ministry of finance and ministry of defence

vii) Red tapism and bureaucratic hierarchy lead to delay in policy formulation — called as 'Policy Paralysis' by Economic Survey

Steps taken

i) Defence Acquisition Procedure (DAP) from erstwhile Defence Procurement Procedure (DPP)

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
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to support indigenization

(ii) 209 item list of negative import or positive indigenization to promote indigenization

iii) Focus on exports: For the first time, according to SIPRI, India featured as exporting country of defence items

iv) Plan to raise about ₹1.75 lac crore by 2025 from defence exports

v) Incentivization to private players

vi) Revamp of Ordance Factory Board (OFB) to PSUs

As India was 2nd largest importer after Saudi Arabia according to SIPRI, the steps to promote defence indigenization will take India from being self sufficient to exporting of defence items.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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19. अंतर्राष्ट्रीय सीमाओं की रक्षा के लिए विभिन्न केंद्रीय सशस्त्र पुलिस बलों की अवधारणा के पीछे के कारकों पर चर्चा कीजिए। साथ ही, भारत की सुरक्षा सुनिश्चित करने में इन बलों के योगदान पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दें)

Discuss the factors behind conceptualization of different Central Armed Police Forces for guarding the international borders. Also, highlight the contribution of these forces in ensuring security of India. (Answer in 250 words) 15

उम्मीदवारों के इस क्षेत्र में नहीं लिखना चाहिए
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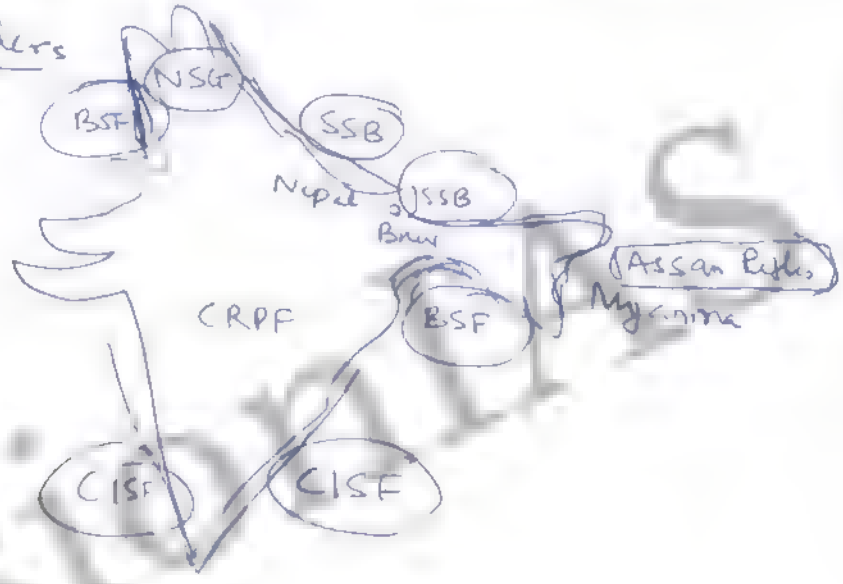
CAPF (Central Armed Police Forces) are a group of 7 forces under the Central government to holistically deal with security issues at the borders



MAP: Deployment of various CAPF

Factors behind conceptualization of CAPF

i) ~~Not~~ Centralized coordination by the Union Govt to deal with the security concerns holistically

ii) Judicious use of resources – like arms, equipments to deal with issues of incursion, insurgency & infiltration

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(iii) 'No One size fits all approach' –

Eg: At Bangladesh & Pakistan – deployment of Border Security Force (BSF)

Border	CAPF	Localized needs
Pak/Bangladesh	BSF	– Porous border – Infiltration across LOC – Refugee crisis
Nepal/Bhutan	Sashastra Seema Bal	– Refugee – e-Visa/no visa entry – trans-border run issue – No clear demarcation of border – Eg: Kalapani @ Nepal
Coastal Area	Central Industrial Rescue Force (CISF)	– Disasters – Sri-Lanka ~~fisher~~ issues Fisherman – Sir Creek line dispute
Jammu Kashmir	BSF	– Militancy – local civilians radicalization over ground workers

Contribution

i) Alert patrolling = 24x7 and vigilant leads to neutralization of attacks Eg infiltration attempts by Pakistan

ii) Lethal incursions like in China's Galwan Valley

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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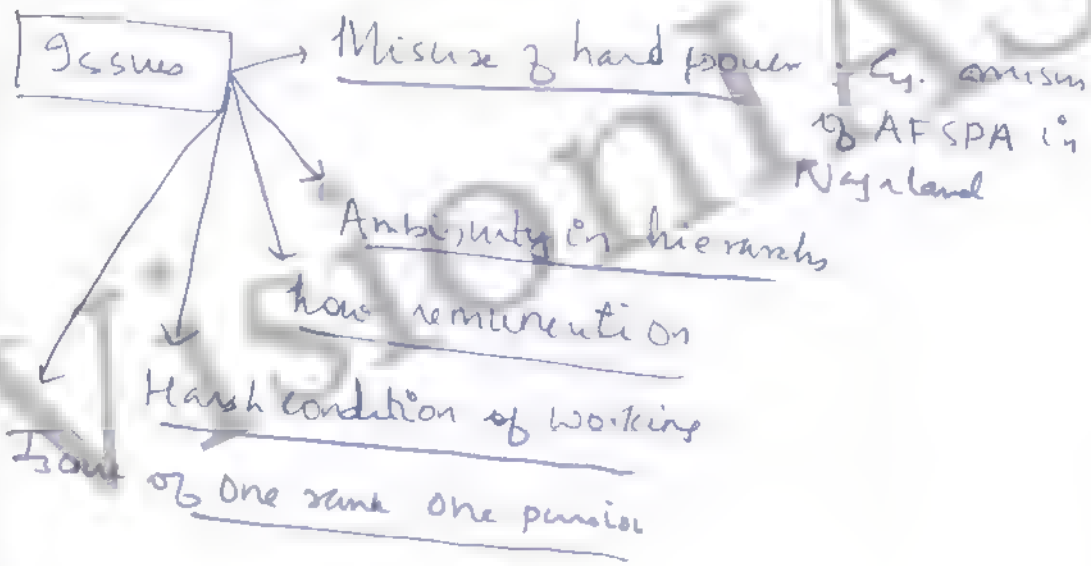
iii) Use of hard power when required :

Eg: Surgical strike in Balakot

iv) Protection of civilians : Eg: J&K civilians

v) Constructive role : Eg: CISF role in disaster management

vi) Awareness generation among locals for their protection



As national security is of utmost importance for any nation, the CAPF have continue to provide support in providing internal security to the nation

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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20. धन शोधन (मनी लॉन्ड्रिंग) गतिविधियों के लिए आभासी परिसंपत्तियों के दुरुपयोग के संदर्भ में, उनकी सुभेद्यता पर चर्चा कीजिए। साथ ही, उन सुधारात्मक उपायों का भी उल्लेख कीजिए, जो आभासी परिसंपत्तियों के उपयोग से उत्पन्न जोखिमों को कम करने के लिए अपनाए जा सकते हैं। (उत्तर 250 शब्दों में दें)

Discuss the vulnerability of virtual assets in terms of their misuse for money laundering activities. Also, state corrective measures that can be taken to mitigate the risks posed by the use of virtual assets. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में कोई लिखावट नहीं करनी चाहिए
Candidates must not write on this margin

Virtual assets are digital assets that have no physical presence, but are based on technological infrastructure, eg: cryptocurrency, non fungible token, etc

With ~~the~~ progress in Industry 4.0, virtual currency is gaining acceptance across the world, however some vulnerabilities are associated with it.

Vulnerability of virtual assets

Misuse ~~of~~ for money laundering activities

i) Absence of (centre regulatory authority)

In virtual asset, makes it vulnerable to use of illicit activities like terror financing

ii) Anonymity of users keeps the identity

hidden of the transacting parties - thereby creating a room for misuse

(iii) No trail of transactions → unlike in case of payment through debit-credit card supported by VISA network, no trail of transactions is left

ii) Concerns by authorities like Financial Action Task Force (FATF) have highlighted the use of virtual currency in money laundering and terror financing.

iv) Inter-country transactions - made easier through technological transfer of virtual money, that bypasses the land/water checking posts

vi) With cyberspace termed as the '5th dimension of warfare', terror financing continues to threaten the security of countries, making it a global issue.

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
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Corrective steps

I) National level

i) Clear legislations: e.g. the proposed bill on cryptocurrency and regulation of digital currencies Bill, 2021 seeks to regulate the virtual assets by within the territory

ii) Awareness generation by government through social media ads, etc

iii) Formation of expert committee like SC Goyal committee - recommended proper regulation backed by RBI as the way forward

II) International level

i) International examples: e.g. El-Salvador legalized crypto currency as medium of exchange

ii) International platform e.g. At Sydney conference the PM advocated for joint discussion on issue of crypto curr

As about 15-20 mn individuals have invested in crypto currency, the need for clear regulation of virtual assets will prevent the issue of money laundering.

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2424)

निर्धारित समय: तीन घंटे
Time Allowed Three Hours

अधिकतम अंक 250
Maximum Marks: 250

सामान्य अनुदेश

इस प्रश्न-सह-उत्तर (क्यू सी ए) पुस्तिका में 55+1 प्रश्न हैं। प्रश्न-पत्र, क्यू सी ए पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरांत अपने साथ ले जा सकते हैं।

रफ कार्य के लिए, इस पुस्तिका के अंत में खाली पृष्ठ दिया गया है।

पुस्तिका प्राप्त होने पर, कृपया यह जांच कर लें कि इस क्यू सी ए पुस्तिका में कोई कमी न हो, फटा हुआ पृष्ठ न हो अथवा कोई पृष्ठ गायब न हो इत्यादि। यदि ऐसा हो, तो इसके बदले नई क्यू सी ए पुस्तिका प्राप्त कर लें।

General Instructions

This Question Cum-Answer (QCA) Booklet contains 55+1 pages. Question Paper in detachable form is available at the end of the QCA Booklet which can be taken away by the candidate after examination.

For rough work, blank pages have been provided at the end of this Booklet.

On receipt of the Booklet, please check that this QCA Booklet does not have any shortcomings, torn or missing pages etc. If so, get it replaced with a fresh QCA Booklet.

(उम्मीदवार द्वारा भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. 0998375

अभ्यर्थी का नाम/Name of Student: NITISHA THAKWANI

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English
English

तारीख
Date
27/08/23

सामान्य अध्ययन (प्रश्न पत्र-I)
GENERAL STUDIES (Paper I)

केंद्र
Centre Bhai Joga Singh Public School, New Delhi

निरीक्षक के हस्ताक्षर
Invigilator's Signature
Gauri

	महत्वपूर्ण अनुदेश	Important Instructions
	उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।	**Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.**
1	(क) अपना पंजीकरण संख्या एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण संख्या, मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet.
2	अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।	Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.
3	परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4	उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।	Do not write answers in bad illegible handwriting. Such answers may not be evaluated.
5	उत्तर स्याही में ही लिखें। उत्तर लिखने के लिए पेंसिल का उपयोग न करें, हालांकि आरेख, चित्र इत्यादि बनाने के लिए पेंसिल का उपयोग किया जा सकता है।	Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.
6	प्रवेश पत्र में उल्लेख किए गए माध्यम के अलावा अन्य किसी माध्यम में उत्तर न लिखें। अधिकृत और अनधिकृत की मिली जुली भाषा का भी उपयोग न करें।	Do not write answers in medium other than the authorized medium in the Admission Certificate. Do not use mixed language either i.e. authorize and unauthorized media together for writing answers.
7	प्रश्नों के उत्तर ठीक उसके नीचे दिए गए निर्धारित स्थान पर ही लिखें। निर्धारित स्थान के अलावा किसी अन्य स्थान पर लिखे गए उत्तर का मूल्यांकन नहीं किया जाएगा।	Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated.
8	यदि आप अपने किसी उत्तर को रद्द करना चाहते हैं तो उसे पेन से काट दें तथा उस पर "रद्द" लिख दें, अन्यथा उसका मूल्यांकन किया जा सकता है।	If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.

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परीक्षक के हस्ताक्षर Signature of Examiner(s)	

प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))

प्रश्न सं. Q. No.	अंक Marks		प्रश्न सं. Q. No.	अंक Marks	
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		
उप-योग (A) Subtotal (A)			उप-योग (B) Subtotal (B)		
सकल योग (A+B) / GRAND TOTAL (A+B)					

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सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2424)

निर्धारित समय: **तीन** घंटे Time Allowed: **Three** Hours	अधिकतम अंक: **250** Maximum Marks: **250**

प्रश्न-पत्र संबंधी विशेष अनुदेश

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

*कुल **बीस** प्रश्न दिए गए हैं जो **हिंदी** और **अंग्रेजी** दोनों में छपे हैं।*

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू सी ए) पुस्तिका के मुख-पृष्ठ पर निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेगा।

प्रश्न संख्या 1 से 10 तक का उत्तर 150 शब्दों में तथा प्रश्न संख्या 11 से 20 तक का उत्तर 250 शब्दों में दीजिए।

प्रश्नों में दिए गए शब्द सीमा को ध्यान में रखिए।

प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गए कोई पृष्ठ अथवा पृष्ठ भाग को पूर्णतः काट दीजिए।

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

*There are **TWENTY** questions printed both in **HINDI** and in **ENGLISH**.*

All questions are compulsory.

The number of marks carried by a question/part is indicated against it.

Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one.

Answers to Questions No. 1 to 10 should be in 150 words, whereas answers to Questions No. 11 to 20 should be in 250 words.

Keep the word limit indicated on the questions in mind.

Any page or portion of the page left blank in the Questions-cum-Answer Booklet must be clearly struck off.

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

VISION IAS

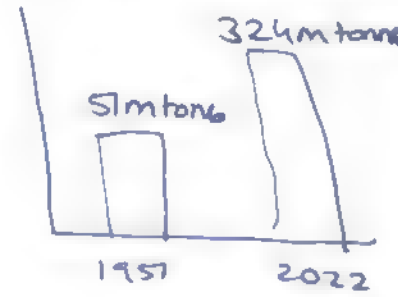
1. खाद्य सुरक्षा के विभिन्न आयाम क्या है? इन आयामों के मद्देनजर खाद्य सुरक्षा सुनिश्चित करने के संदर्भ में भारत की स्थिति का परीक्षण कीजिए। (उत्तर 150 शब्दों में दीजिए)

What are the different dimensions of food security? Examine India's status in terms of ensuring food security with regard to these dimensions. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Food security refers to the availability accessibility and affordability of food to all citizens at all times

Dimensions and India's status	
Dimensions	India's status
① Availability	Steps like green revolution led to increased food production (324 m tonnes)
② Affordability	Public distribution system (PDS) → Rice ₹2/kg and wheat ₹1/kg
③ Accessibility	Food Corporation of India (FCI) procurement and distribution in rural areas
④ Nutrition	Still lagging - NFHS-5 35% Undernutrition 19% wasting



Food Grain production

Visions

(5) Hidden Hunger

→ Malnutrition in India exists → As per Global Hunger Index (GHI) in India ranks 101/116 countries

(6) Resilience

(eg) Covid related inflation controlled via imposition of Essential Commodities Act

(7) Supply Chain resilience

Agri-Infra fund - ₹1 lacr to invest in cold storage

Way forward

(1) Food fortification

(2) Reduce Food Squeeze Budget

(3) Dalwai committee → Millet production

Only a food secure nation can help achieve vision of Developed India by 2047

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

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2. ब्लॉकचेन और चैटजीपीटी जैसी आधुनिक प्रौद्योगिकियां कृषि को अधिक कुशल और मजबूत क्षेत्र में बदलने की अपार क्षमता वाले शक्तिशाली साधन हैं। भारत के संदर्भ में चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

Modern technologies such as blockchain and ChatGPT are powerful tools with immense potential to transform agriculture into a more efficient and sustainable sector. Discuss in the context of India. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

As India moves to Web3.0, Industry 4.0 and Genetics 2.0, modern technologies like Blockchain and ChatGPT have potential to revolutionize agriculture

Blockchain → Digital public ledger
- Immutable
- Decentralized
- Transparent

Chat GPT → Generative AI
- texts / images as per user demand
- Interactive

Agriculture	Blockchain	Chat GPT
① Pre sowing	→ Information dissemination on soil condition, MSP, seed, water availability	→ Farmers can seek knowledge about which crops to grow, method of cultivation → innovation

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Agriculture	Blockchain	Chat GPT
(2) During sowing	→ Information about location of water irrigation → Custom hiring centers → tractors availability → Pre contracts (Smart contract)	→ Best case methods of cultivation sowing → Seek images about method of using tractors
(3) Post sowing	→ Income diversification methods	→ Generate ideas to diversify income
(4) Marketing	→ Smart contract → eNAMS → Price discovery	→ Ways to augment income

As Agriculture continue to employ 45.5% workforce, with technology aiding doubling farmer income will lead to wage augment for farmers and food security for consumers.

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

3. वैश्विक अर्थव्यवस्था में वि-डॉलरीकरण की प्रवृत्ति में हालिया तेजी के लिए कौन-से कारक उत्तरदायी हैं? क्या आपको लगता है कि डॉलर का प्रभुत्व जल्द ही समाप्त हो जाएगा? (उत्तर 150 शब्दों में दीजिए)
What factors have led to the recent acceleration in the trend towards de-dollarization of the global economy? Do you think the dollar will lose its dominance anytime soon? (Answer in 150 words)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates should not write on this margin

Dedollarization refers to reduced usage of dollar currency for trade settlement and medium of holding foreign currency by countries across the geographies.

Factors leading to dedollarization

① Weaponization of currency (eg) Freezing of SWIFT Account of Russia

② Geopolitics (eg) Russia-China - no limit friendship zone - push to Yuan-Ruble

③ Sanctions impact reduction
(eg) CAATSA on India import of S400

④ Effect of Taper tantrum in 2013 led to flight of FDI/FII from India

⑤ Volatility of domestic currency (eg) India's ₹ = 1/80 $ due to $ strengthening not ₹ weakening.

⑥ Fluctuating Forex → India's forex reduced to $500bn in 2022

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Dollar dominance reduce

Yes	No
① Bilateral deals (eg) Russia - India rouble deal in oil exports ② India's rule (eg) UPI with UAE, Malaysia ③ Recommendation of Tarapore Committee → Full Account Convertibility	① 70% Forex reserve and 80% trade in $ ② SDR currency dominance ③ Recognition by Bretton Wood Institutions

Overall, dollar will not lose its dominance since it dominates trade, foreign reserve and SDR currency in IMF.

VisionIAS

4. विकसित देशों द्वारा भारत पर खाद्य सब्सिडी व्यवस्था में बदलाव करने के अत्यधिक दबाव के बावजूद, भारत के लिए निर्धन व्यक्तियों हेतु अपना नीतिगत समर्थन बनाए रखना एक उचित कदम होगा। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

Despite significant pressure from the developed countries to alter its food subsidy regime, there is merit in India trying to retain its policy support for the poor in the country. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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At WTO, developed countries push for reduction of Amber Box Subsidy - where food subsidy is categorized as illegal to be reduced to <10% of price of (1986-88) levels for developing countries.

Merit in India's policy support

① India - Agrarian economy
⇒ 45.57% (Agri Census 2015) are in agriculture

② Low wage of farmers ⇒
As per 77th household survey, farmers' income only ₹10,000/month

③ Significant poverty rate
NITI Aayog → MPI is 14.96%

④ Poor indicators performance
→ Global Hunger Index ₹101/116

(5) Address situation factors (eg) Covid led lockdown → need to protect migrants – under PM Garib Kalyan Yojna

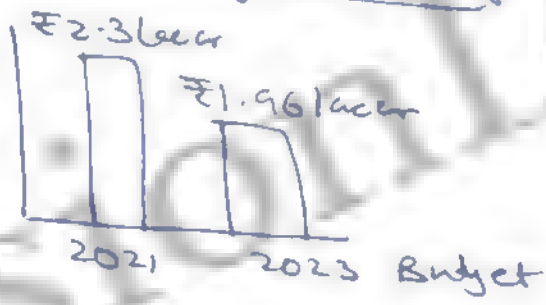
(6) Ensure food security → support to farmers ⇒ farmers confidence

(7) Mid day meal – to improve education enrollment

Way Forward

(1) Rationalization of Subsidy

(eg)



(2) Focus on empowerment of poor (Ashok Gulati) + (eg) Higher allocation on education, skill development

(3) More focus on physical Assets – Jal Shakti, Awas Yojna

With Peace Clause at WTO a temporary arrangement needs to be shifted to permanent arrangement at WTO

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

5. भारत की जल संबंधी जरूरतों को पूरा करने की दिशा में सरकार द्वारा कई पहलों की शुरुआत की गई है, परन्तु जल की उपलब्धता और जल की गुणवत्ता जैसे मुद्दों पर अभी भी नीतिगत हस्तक्षेप की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

Several initiatives have been taken by the government towards addressing India's water needs, but the issues of water availability and water quality still warrant prioritised intervention. Discuss (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write in this margin

As per NITI Aayog, 67% of households do not have access to clean water. And per capita availability reduced from 1800 m³ (2001) to 1400 m³ (2015) → leading to water stress situation.

Initiatives

① Jal Jeevan Mission – ₹69 lac crore allocation to Budget 2024

② Rural household supply – 55 Lt/day and functional household taps by 2024

③ Water harvesting and recycling push

④ Finance Commission – tied grants to improve water availability

⑤ Decentralization (eg) ~~Pate~~ Water Panchayats to revive old ponds

⑥ First water body census of 2023 → 24.24 lac bodies enumerated

Issues

Availability

1. By 2050, water org forecasts water scarcity (<1000m³)
   ⇒ Falling index
2. Rural-Urban divide
3. Inter region disparity
   (eg) North (perennial rivers) vs South (seasonal rivers)

Quality

1. Water Contamination
   (eg) Punjab cancer caused due to huge fertilizer
2. Water borne diseases
3. Algae overgrowth (eutrophication)
4. Industrial effluents

Way Forward

1. WASH strategy
2. Mihir Shah committee (combine water bodies authorities)
3. Replication of Namami Ganga
4. Community participation

Thus, to fulfil SDG6 (Clean water and sanitation) whole of Govt-society and people involvement is needed.

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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6. आर्कटिक में हिमनदों के पिघल कर सकुचित होने के लिए उत्तरदायी कारक क्या हैं? पारिस्थितिकी तंत्र पर आर्कटिक हिमनदों के पिघलने के संभावित प्रभाव का वर्णन कीजिए। (उत्तर 150 शब्दों में दीजिए)
What are the major drivers of glacial retreat in the Arctic? Describe the potential impact of the retreat of Arctic glaciers on the ecosystem. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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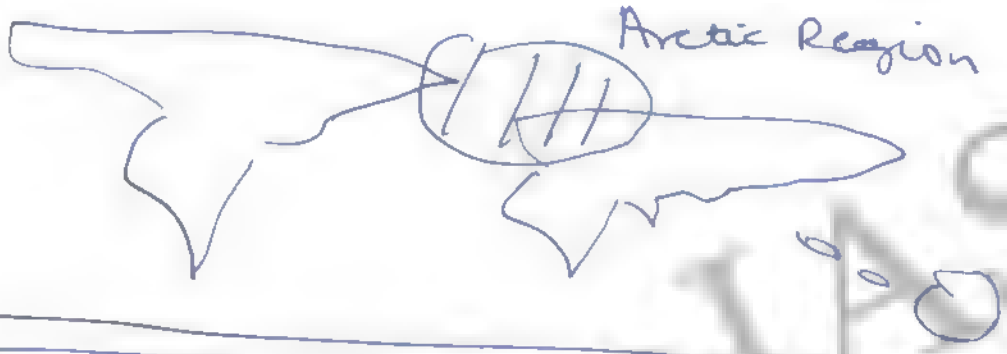
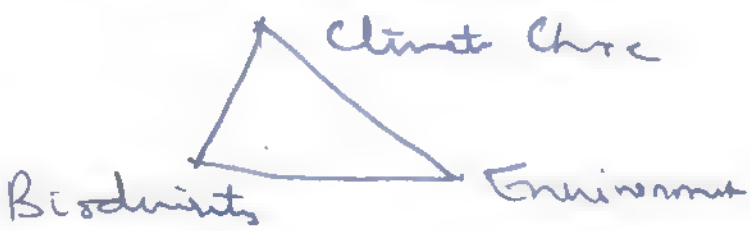
Arctic Region, as per IPCC 6th Assessment Report is losing glaciers at an accelerating pace



Drivers of Glacier retreat

1. Arctic amplification – 2 times loss of arctic due to albedo
2. As per IPCC 95% glacier retreat due to climate change induced by anthropogenic factors
3. Triple Planetary Crisis



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Potential Impact

1. Loss of biodiversity
2. Arctic resources (eg) Fish, minerals
3. Sea route for navigation
4. Security threats (eg) China's claim to India
5. Monsoon impact

Thus, impacts are multi dimensional.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

7. अंतरिक्ष पर्यटन, जिसे सीधे तौर पर एक साइंस फिक्शन फिल्म के रूप में देखा जाता था, अब बिना किसी बाधा के वास्तविकता बन रहा है। अंतरिक्ष पर्यटन से संबंधित चुनौतियां क्या हैं? इन चुनौतियों से निपटने के लिए क्या उपाय किए जा सकते हैं? (उत्तर 150 शब्दों में दीजिए)

Space tourism, which was viewed as something straight out of a science fiction movie, is now becoming a reality albeit not without hindrances. What are the challenges associated with space tourism? What measures can be taken to address these challenges? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए

Candidates must not write in this margin

With Chandrayaan 3 success in 2023 and ensuing Gaganyaan Mission of 2024, space tourism is becoming a reality

Challenges

① Limited technology → India spends only 0.67% of GDP on technology

② Skill development (eg) only 5% formally skilled

③ High cost of technology ⇒ limited funds, to be balanced with welfare needs

(4) Space challenges: (eg) High pressure absence of water

(5) Low training source (eg) Indian Astronauts trained in USA for Gaganyaan Mission

(6) Limited private sector participation

Way Forward
1) NSIL and INSPACE
2) Technology Sharing
(eg) iCET

These steps will help India reach the space and utilize the 4th dimension of space security

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

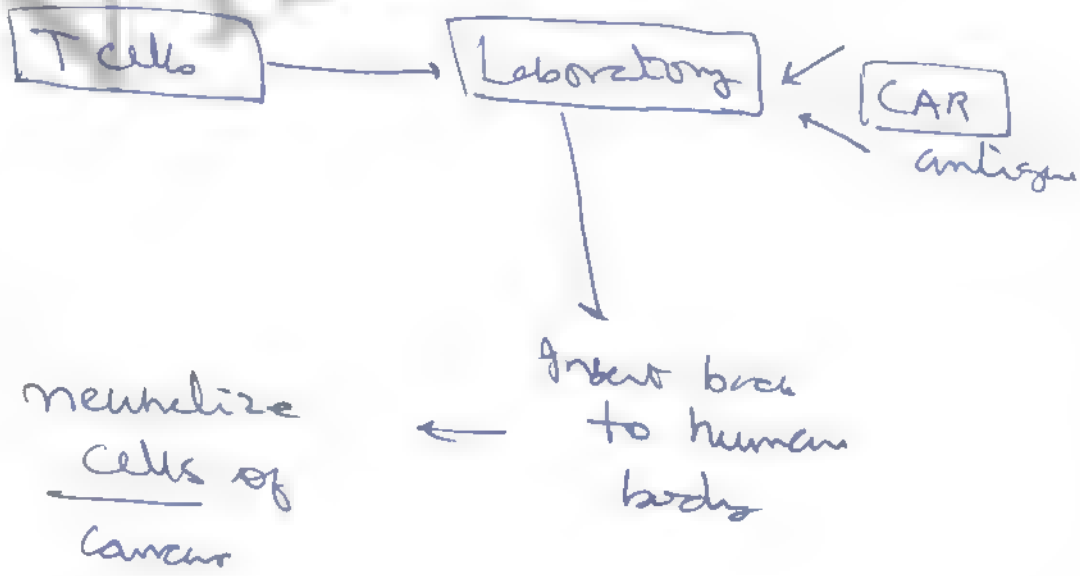
VisionIAS

8. वैश्विक स्वास्थ्य विशेषज्ञ व्यापक रूप से मानते हैं कि CAR-T सेल थेरेपी का विकास कैंसर के उपचार में एक बड़ी सफलता हो सकता है। CAR-T सेल थेरेपी CRISPR-Cas9 तकनीक में व्याप्त कमियों को कैसे दूर कर सकती है? (उत्तर 150 शब्दों में दीजिए)

Global health experts widely believe that the development of CAR-T cell therapy can be a game changer in the treatment of cancer. How can CAR-T cell therapy overcome the limitations of CRISPR-Cas9 technology? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

CART-T cell therapy aims to use gene editing technology to take out T cells - immune cells of body, edit them with Chimeric Antigens and incorporate high ~~and~~ ability to address the neutralization of CA+ cancer cells.



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CART → Overcome CRISPR-CAS9

① More robust – since non ~~invasive~~ invasive

② CAS-9 relies on ~~m~~ pathogen bacteria to guide to the right location

⇒ In CART → lab change leads to more probability of success

Thus, in 21st century, new technologies like CART can provide

SDG 3 – Good health and well being

उम्मीदवारों के इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

9. चर्चा कीजिए कि प्रमुख हिंसक चरमपंथी संगठनों द्वारा नई और उभरती प्रौद्योगिकियों के बढ़ते इस्तेमाल के विरुद्ध संगठित एवं ठोस वैश्विक प्रयासों की आवश्यकता क्यों है। (उत्तर 150 शब्दों में दीजिए)

Discuss why the rising deployment of new and emerging technologies by prominent violent extremist organizations demand concerted global efforts. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए*
Candidates must not write on this margin

In the era of Web4.0 and Industry 3.0, New and emerging technologies (NET) make security challenges non lethal but more crippling.

NET - more dangerous

① Asymmetric warfare → cannot be tracked by conventional power

② Rise of hybrid means of warfare

traditional + Non traditional

③ Anonymity (eg) Use of drones to drop drugs in Punjab

④ Cross border terrorism (eg) Crypto currency → illegal funding

VisionIAS

(5) Radicalization (eg) ISIS recruit Indians via Telegram

(6) Identity theft (eg) Pakistan lone wolf attacker in Indian soil

(7) Strong organized crimes

(eg) Narco-terrorism Hezbollah

(8) Threaten State security (eg) FARC drug terrorism in Latin America

Need for global efforts

(1) Delhi Declaration → Uniform laws on NET to curb terrorism

(2) Guidelines on Drone technology

(3) CCIT → cross border Internet terrorism to address challenges of cryptocurrency

Collective efforts will lead to safe, secure and flourishing rule based world order

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

10. गलवान और यांगस्ते की घटनाओं के बाद वास्तविक नियंत्रण रेखा (LAC) पर तनाव बना हुआ है तथा भारत एवं चीन दोनों सीमावर्ती क्षेत्रों में अपने बुनियादी ढांचे को सुदृढ़ कर रहे हैं। इस क्षेत्र में ITBP द्वारा निभाई जाने वाली भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

With the Line of Actual Control (LAC) remaining tense after the Galwan and Yangste incidents and both India and China ramping up infrastructure in the border areas, discuss the role that ITBP plays in the region. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Line of Actual Control (LAC) is the 3488 km border that India shares with China.

LAC-tensed situation

1. Galwan clashes in 2020 – death of 34 Indian soldiers due to clashes at 3 and 4 fingers

FIG: LAC

2. Yangste Clashes – due to border dispute and Chinese advancement across border

3. Salami Slicing – layer by layer advancement of China into India

4. Disputed region of Aksai Chin theater of violence

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⑤ Cartographic aggression by China ⇒ renaming of border disputes

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Ramp of border infrastructure

① Border village development
→ Vibrant Village programme (₹4800 cr Budget 2024)

② Road construction – China in border of Arunachal Pradesh

③ Intelligence border – deployment of drones, AI, etc

④ Village defence Guards to guard borders

⑤ Widening of roads along international borders

Role of ITBP
① Quick deployment to address aggression
② Man border security gates
③ Intelligence Sharing
④ Inform villages and ensure Safety.

Recent BRICS sideline meeting (2023) of China – India presents hope for disengagement across border (LAC)

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11. क्या आपको लगता है कि भारत को 'भूमि उत्पादकता' के सिद्धान्त को छोड़कर 'सिंचाई जल उत्पादकता' के सिद्धान्त को अपनाने की आवश्यकता है? अपने उत्तर का औचित्य सिद्ध कीजिए। यह बदलाव करने में कौन-सी चुनौतियां विद्यमान हैं? व्याख्या कीजिए। (उत्तर 250 शब्दों में दीजिए)

Do you think there is a need for a shift from 'land productivity' to 'irrigation water productivity' in India? Justify your answer. What are the challenges in making this shift? Explain. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
Candidates must not write on this margin

Land is an inelastic source of factor of production, whose productivity rise can augment agriculture productivity.

Need to shift from land productivity to irrigation water productivity

① Optimum Gross and Net Sown Area ratio - [At 1.42] - limited scope to enhance productivity

② Limited land availability

(eg) Land density rose from [48/km²] (2001) to [59/km²] in 2022 due to population pressure.

③ High pressure on water resources

(eg) < 1400 m³ per capita

available of water – water stress condition

(4) Agriculture uses 83% of fresh water need to improve water productivity

(5) Unscientific method of production

(eg) Flooding method of paddy cultivation

(6) Over utilization of ground water

As per NITI Aayog Composite water Index → 25% Ground water overutilized

(7) Irrational subsidy on water

⇒ susceptible to misuse

Challenges

(1) State policy – subsidy on water

⇒ continued over-use

(2) Lack of awareness among farmers

उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
Candidates must not write on this margin

VISION IAS

③ Agriculture dependent on rain – need to secure water sources

④ Use cost of micro-irrigation investment

⑤ 86% farmers are small and marginal – cannot adopt water efficient technologies due to high initial cost

Way Forward

① Per crop more drop

② Funds for agriculture micro irrigation

③ Land mapping (Digitization)

Both land and water productivity needs to be enhanced to be able to improve agriculture productivity, reduce virtual water import and uphold balanced development

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
Candidates must not write on this margin

VisionIAS

12. भारत की ऊर्जा सुरक्षा प्राप्त करने में हरित हाइड्रोजन की भूमिका का परीक्षण कीजिए। राष्ट्रीय हरित हाइड्रोजन मिशन, भारत की अपने ऊर्जा लक्ष्यों को प्राप्त करने में किस प्रकार मदद कर सकता है? (उत्तर 250 शब्दों में दीजिए)

Examine the role that green hydrogen can play in unlocking the energy security of India. How can the National Green Hydrogen Mission help India in achieving its energy goals? (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Green Hydrogen is hydrogen production from electrolysis of water, which is clean, green and high in energy density

Water → Fuel Cell → H_2

Green hydrogen

Role of Green Hydrogen to unlock energy security

① Achieve Panchamrit target
→ Net zero by 2070

② Diversification of energy source
eg 85% ~~imports of~~ energy needs met via imports.

VisionIAS

③ Reduce import bill and financial constraints (eg) Forex in India reduced to less than $600bn

④ Continuous availability of energy to drive growth

⑤ Push to Atma nirbhar Bharat – indigenous source of energy

Natione Green Hydrogen Mission – 2023

① The Budget ~~to set~~ has allocated ₹19700 crore for 2023-27

② Creation of 5 MMT in next 3 years

③ Electrolysis capacity of 125 GW

④ Produce 6 lac jobs

⑤ ₹8 lac crore cumulative investment in green hydrogen

⑥ SIGHT – Strategic Intervention in Green Hydrogen policy – to incentive ~~pub~~ private investment

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

⑦ Save ₹1 lac crore on imports of fossil fuels

Advantages of Hydrogen

1. High calorific value
2. Clean energy
3. Drive growth of Green Ammonia
4. High energy density

Disadvantages

1. Volumetric density ↑
2. Difficult to store
3. High cost
   $4/kg vs. $1/kg
   ↓
   Grey hydrogen

Government vision to push for green hydrogen by Green Hydrogen Mission aims to realize SDG 7 (clean energy) and make India's goal of Panchamrit a reality.

उम्मीदवारों को इस हाशिये में नहीं लिखना चाहिए
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13. हाल के दिनों में, सरकार न्यूनतम पारिश्रमिक की जगह जीवन निर्वाह पारिश्रमिक को अपनाने पर विचार कर रही है। भारत में जीवन निर्वाह पारिश्रमिक को अपनाने के लाभ और इसमें विद्यमान बाधाएं कौन-सी हैं? (उत्तर 250 शब्दों में दीजिए)

The government has been weighing a transition from minimum wage to living wage in recent times. What are the benefits and constraints in the adoption of living wage in India? (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

As per Article 39 the State is mandated to provide living wage to all citizens in the spirit of welfare, Sarvodaya, Antodaya.

Minimum Wage
1. Minimum Wage Act
2. State level determined
3. Provide Safety net
4. Address high incidence of poverty (15% - MPI)

Advantages of living wage

1. Uphold the spirit of Constitutional morality — Dignity of life

2. Reduce incidence of MPI
⇒ As per NITI Aayog, MPI is

largely due to poor health ⇒ cannot be solved by minimum wage

③ Subjective interpretation of minimum wage (eg) ₹ ~~210~~ 212 in MGNREGA not sufficient to live a decent living

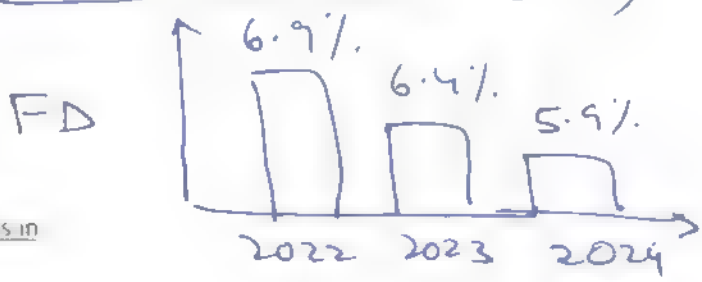
④ Reduce intergenerational poverty
Since living wage provide opportunity to explore alternative livelihood

⑤ Promote social mobility
⇒ India ranks [69/74] in social mobility

⑥ Achieve the vision of developed India by 2047 – life of flourishing reality

Challenges

① Fiscal constraint (FD)



उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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② Violate the golden rule of fiscal policy ⇒ to borrow to invest not for revenue expenditure

③ Ballooning interest ~~suplem~~ repayment
⇒ 20% of Budget (₹ 9 lac crore)

④ Dependency effect → cuts innovation
reduces motivation for workforce upskilling

Way Forward
① Skill development
② Investment on capital expenditure (33% of Budget)
③ Job creation (10 lac jobs additional by 2025)
④ Sharda Prasad committee → industry-academy link

In the spirit of Sabka Sath, Sabka Vikas Sabka Prayas, focus should be to provide living wage along with capital investment to drive inclusive growth

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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14. केंद्रीय बजट भारतीय अर्थव्यवस्था के लगभग हर क्षेत्र को प्रभावित करता है, फिर भी न तो बजटीय प्रक्रियाएं पर्याप्त सार्वजनिक जांच के दायरे में आती हैं और न ही बजट नीतियां। क्या आप इस कथन से सहमत हैं? अपने उत्तर का औचित्य सिद्ध कीजिए। (उत्तर 250 शब्दों में दीजिए)

The Union Budget affects almost every sector of the Indian economy, yet neither the budgetary processes nor the budget policies come under substantial public scrutiny. Do you agree? Justify your answer. (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए

Candidates must not write on this margin

Union Budget under Article 112 (Annual Financial Statement) delineates sources of revenue and expenditure of Union Government along with policy targets.

Budget-Affecting sectors

① Agriculture
eg PM-PRANAM
Agri-fertilizer Subsidy

Manufacturing
eg PLI Schemes

Energy
→ E-vehicles
→ Renewable energy

Poor
eg MGNREGA

Women
→ gender budgeting

Rural Development
eg PM AWAS

Limited Public Scrutiny

① Ex post facto power of CAG

(eg) Mismanagement of Jan Aarogya Fund

(2) Public Accounts Committee → only recommendatory in nature

(3) Limited consultation with public

(4) Closed door dealings with public groups (eg) FICCI-Finance Ministry meeting

(5) Passage of budget via voice vote ⇒ disruptions and limited discussions

Human, scrutiny exists

Budgetary Process

(1) Consultation and intuition of expert opinion

(2) Role of media - creating awareness about possible changes

(3) Debates and discussion

(eg) Shadow Budget by e-GROW foundations

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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Budget policy – scrutiny

① Department related standing committee (DRSC) – referred ~~budg~~ budget for each department

② Recess after budget presentation
⇒ for discussions

③ Expert committee/opinions invited to discuss

④ Feedback mechanism
(eg) Poor allocation of funds for PVTG led to PVTG 2.0 in Budget 2024

Thus, limited scrutiny issues of Budget have been addressed through debates, notings, recess ~~on~~ in budget session and public consultation to ensure unity of voice, unity of purpose.

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

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15. भारत स्वयं को दूध की कमी वाले देश से दुनिया के सबसे बड़े दूध उत्पादक देश के रूप में बदलने में सक्षम हो गया है, लेकिन देश में डेयरी पशुओं की उत्पादकता चिंता का विषय बनी हुई है। विवेचना कीजिए। (उत्तर 250 शब्दों में दीजिए)

India has been able to transform itself from a milk deficit country to the world's biggest milk producer, but the productivity of dairy animals in the country remains a concern. Discuss (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

India is the world's largest milk producing nation, due to third largest bovine population, contributing to augmentation of farm income

Transformation ~~of~~ from deficit to world's biggest producer

① Cooperative revolution → White revolution by AMUL - community engagement

② Institutional credit availability
⇒ As per NABARD, productivity is directly correlated to credit

③ Sahakar se Samriddhi → prosperity through cooperation

④ Supply chain resilience - since shelf

life of milk is low – connectivity to demand centres reduce time

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Productivity of Dairy ~~Farmer~~ Animals low

---

① Poor nutrients availability – low quality fodder

② Climate change → low agricultural productivity → Fodder inflation → limited fodder for livestock

③ Unscientific methods (eg) Artificial insemination industry not regulated → faulty methods of insemination

④ Breeding of livestock not captured at commercial scale

⑤ Poor environment – disease issues (eg) Cattle disease in 2022 led to death of dairy animals

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Way Forward

1. Agri dairy infrastructure fund (2023 Budget) ⇒ ₹20 lac crore – utilize for ~~livestock~~ dairy animals

2. Regulation of industry of artificial insemination

3. ~~INDIGEN~~ CHIP programme – gen. chip to track livestocks – world's largest programme

4. Breeding of ~~livestocks~~ dairy animal to enhance productivity

5. Control on use of antibiotics for cattle → may lead to Antimicrobial disease.

As dairy farmers contribute to progress of Doubling Farm Income (Dalwai Committee) need to augment health of cattle by restricted use of antibiotics, artificial insemination and clean conditions

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

16. जहाँ एक तरफ जलवायु परिवर्तन, फसल की विफलता के लिए जिम्मेदार है, वहीं दूसरी तरफ चरम मौसमी घटनाओं के लिए कृषि क्षेत्रक स्वयं आंशिक रूप से जिम्मेदार है। विवेचना कीजिए। भारत में कृषक समुदाय की प्रत्यास्थता को सुदृढ़ करने के लिए राष्ट्रीय कृषि आपदा प्रबंधन योजना के तहत क्या रणनीति अपनाई गई है? (उत्तर 250 शब्दों में दीजिए)

While climate change is responsible for crop failures, the agricultural sector itself is partly responsible for extreme weather events. Discuss. What strategy has been adopted under National Agriculture Disaster Management Plan to strengthen the resilience of the farming community in India? (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

As per IPCC, 6th Assessment report 2022, rising intensity, duration and frequency of aberrant weather conditions leads to crop failures

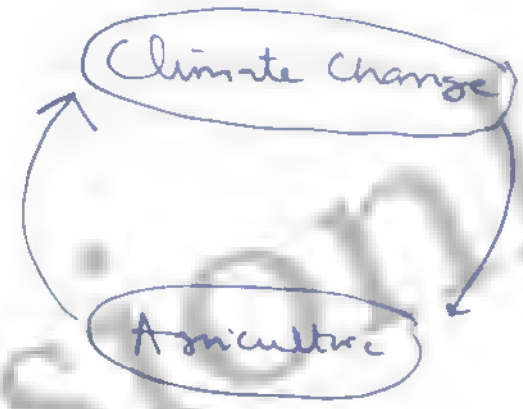

FIG: Feedback loop

Climate Change → crop failure

① Agriculture – considered to be enterprise under open sky → affected by climate change

② Food inflation → 7.9% in India, driven by climate change

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(3) 58% of land is rainfed - monsoon dependent

(4) Food grain loss (eg) 30mn tonnes lost in 2003 due to El-Nino

(5) Over impact on some crops
(eg) tomato inflation of 400% in 2023

Agriculture - Affecting weather

(1) Unscientific methods of cultivation
(eg) stubble burning in Haryana

(2) Over exploitation of nature resources
(eg) Agri in India uses 83% fresh water

(3) Deforestation due to area under cultivation ⇒ 149 million Ha under agriculture

(4) Over use of fertilizers ⇒ contaminate water ⇒ affect Evapotranspiration

(5) Loss in moisture ⇒ Drought like conditions

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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Strategy under Agri Disaster Mgmt Plan

① Climate smart agriculture by precision farming (eg) Use of data to decide crop production

② Induction utilization of resources
(eg) Micro irrigation

③ Early warning system — to aware farmers about impending climate vagaries

④ Reduce impact of weather
(eg) Green house buildings to provide natural environment in ~~eg~~ artificial conditions

⑤ Agriculture accelerator fund → investment in storage, cold chains

As Climate change is both affecting and being affected by agriculture climate smart agriculture will improve resilience and reduce impact on agriculture to ensure sustainable development.

Candidates must not write on this margin

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17. दिल्ली सहित भारत के कुछ क्षेत्र हिमालय में आने वाले भूकंपों के प्रभाव के प्रति अत्यधिक संवेदनशील हैं। विवेचना कीजिए। भारत में भूकंप से होने वाली हानि को कम करने के लिए कौन-से संस्थागत उपाय किए गए हैं? क्या आपको लगता है कि कुछ उल्लेखनीय कमियां अभी भी मौजूद हैं? (उत्तर 250 शब्दों में दीजिए)

Some regions in India, including Delhi, are highly vulnerable to the impact of earthquakes originating in the Himalayas. Discuss. What institutional measures have been taken to mitigate earthquake losses in India? Do you think there are significant gaps that still exist? (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Earthquakes are sudden release of vibrations from Earth's crust due to stress built in the plates.

As per Geological Survey of India (GSI), 58% of India is earthquake prone, with 11% in Zone V most of which is in Himalayan zone

Reason for vulnerability

① Geological structure

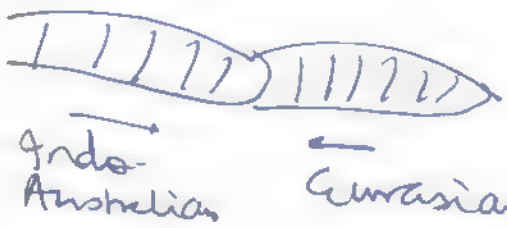
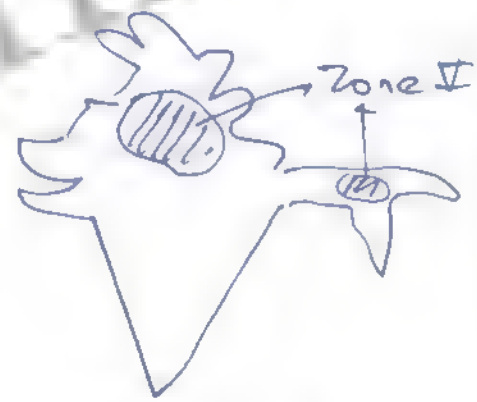


FIG: Convergent plate boundary



MAP: Earthquake in Himalayas

(2) Fault lines (eg) Joshimath built on Vaikrita fault - more vulnerable to earthquake

(3) Unconsolidated land material

(eg) Weak structures of foundation contribute to earthquakes

(4) Rising Himalayas → 5 cm/year shows active plate movement

Institutional Measures

(1) National Building Code - to be followed to build new buildings

(2) Retrofitting of seismic hazard buildings already existing

(3) Regulatory mechanism - to ensure its implementation

(4) Emergency response (eg) Mockdrills

(5) Capacity building (eg) Modules on procedural guidelines

उत्तरदाताओं को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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⑥ Center - State coordination to ensure quick deployment of help

⑦ Sendai framework of disaster risk reduction

Significant Gaps
① limited coordination
② Flouting of Building rules
③ No land use mapping

Way Forward
① Disaster fund from private sector (G20 meet on disaster)
② Mihir Shah Committee (Blue-Green Infrastructure)
③ Community involvement

As WB estimates 200mn people in India to be affected by earthquake by 2050, need for adaption of building code, land use mapping and mitigation is needed.

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

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18. हाल ही में, वैज्ञानिकों ने परमाणु संलयन अभिक्रिया में निवल ऊर्जा लाभ की घोषणा की है, जिसे स्वच्छ ऊर्जा के भविष्य के लिए एक बड़ी वैज्ञानिक सफलता माना गया है। परमाणु संलयन आधारित विद्युत उत्पादन के क्या लाभ हैं? व्यावसायिक स्तर पर विद्युत उत्पन्न करने के लिए इसके उपयोग की क्या सीमाएं हैं? (उत्तर 250 शब्दों में दीजिए)

Recently, scientists announced net energy gain in nuclear fusion reaction, which is considered as a major scientific breakthrough for the future of clean energy. What are the advantages of nuclear fusion based power generation? What are the limitations in using it to generate electricity at a commercial scale? (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए (Candidates must not write on this margin)

Nuclear Fusion is the technology of combining two light nuclei like Hydrogen to yield huge energy.

$$^{1}_{1}H + ^{1}_{1}H \longrightarrow ^{2}_{1}D$$

(Hydrogen) (Deuterium)

At ITER (Inter Therma Nuclear Experimental reactor) → Tokamak technology demonstrated net gain in energy.

Advantages

① Push to clean energy

⇒ As per 6th IPCC Report, world needs to reduce 43% emission by

2025 to achieve Carbon neutrality and meet Paris climate goals

(2) Push to India's Panchamrit

(eg) Become Carbon neutral by 2070

(3) Much safer than fission ⇒ due to radioactive waste absence

(4) Replication of natural phenomenon ⇒ nuclear fusion drives sun, stars → more stable

(5) Technology sharing reduce climate injustice (eg) top 1% contribute to 17% GHG while bottom 750 million contribute to 12%

(6) Balance growth and development with environmental conservation

Challenges

(1) Difficult to replicate the conditions (eg) Sun undergoes

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

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fusion at 1.5 million °C

(2) Technology concentration with developed countries → may lead to climate injustice

(3) Limited skills (ex) Only 5% Indian workforce is skilled → difficult to operate

(4) India's progress in FISSION ⇒ 3-stage nuclear reactor may be rendered irrelevant.

Way Forward
- (1) Technology sharing
- (2) Forum to discuss fission / fusion
- (3) Symposiums
- (4) Skilling of workforce

As the world progresses in fusion technology, steps like tech sharing, skilling will help realize SDG 7 (Clean energy)

उत्तरकर्ता को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write in this margin

VisionIAS

19. हालिया संशोधन को ध्यान में रखते हुए, भारत में धन शोधन (मनी लॉन्ड्रिंग) के खतरे से निपटने में धन शोधन निवारण अधिनियम, 2002 की प्रभावकारिता का परीक्षण कीजिए। (उत्तर 250 शब्दों में दीजिए)
Keeping in view the recent amendment, examine the efficacy of the Prevention of Money Laundering Act, 2002, in tackling the menace of money laundering in India. (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए। Candidates must not write on this margin

Money laundering (OECD) is the process of disguising illicit money source as it legal by incorporating in the money system.

Steps

Placing → Layering → Integration

Amendment in PMLA 2002

① Identification and expansion of beneficial groups / individuals
⇒ Now, groups exposed to 10% (from 25%) to business under PMLA

② Due diligence enhanced of NGOs civil societies ⇒ registration certificate renewal needed

③ Politically exposed persons (PEP) definition broadened

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(4) All NGOs under Section 8, Companies Act 2013 under PMLA

(5) 50th GST council expanded to include GSTN Networks under PMLA to adhere to FATF

(6) Company secretaries, CAs, CSs now included under PMLA

Efficacy of PMLA	
High effective	Limited effect
(1) Expansion of definition - wide coverage	(1) Only 19% prosecution file cases
(2) Whole of supply chain ~~and~~ identification	(2) Poor conviction rate
(3) Illicit activities like drug trafficking, narcotics to be addressed	(3) Restricts ease of doing business
(4) Limits scope for money laundering	(4) Hinders economic growth (eg) GST regulations

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए।
Candidates must not write on this margin

Way Forward

I Institutional Measures

1. Adhrence to FATF guidelines
2. Data sharing (eg) FIU-India
3. NATGRID modernization to digitize transactions

II International convergence

1. Reduce cross border illegal movement
2. Global check of crypto currency to reduce money laundering

III Other

1. Awareness among citizen
2. Training of workforce

PMLA costs 2-5% of GDP (FATF). Collective efforts and data sharing along with PMLA implementation will lead to its control.

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20. हिंद महासागर क्षेत्र (IOR) में मौजूद उन सुरक्षा खतरों पर चर्चा कीजिए जिनका भारत के समुद्री सीमा संबंधी हितों पर सीधा असर पड़ता है। इन खतरों से निपटने के लिए एक मजबूत रणनीति सुझाइए। (उत्तर 250 शब्दों में दीजिए)

Discuss the security threats present in the Indian Ocean Region (IOR), which have a direct bearing on India's maritime border interests. Suggest a robust strategy to deal with these threats. (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए Candidates must not write in this margin

India's 7500 km of maritime border makes her vulnerable to security threats in IOR; India being a 'Stationed Ship' in IOR has security fallout implications

Security Threats

① Impact on internal security

(eg) Mumbai 2008 attacks via water route

② Piracy attack in Arabian Sea close to Somalia

③ Disruption of Sea lines of Communication (SLOC) (eg) Choke point (Malacca) weaponized

④ Illegal migrant (eg) Rohingyas from Cox Bazar Island

⑤ Drug trafficking - from Golden Crescent (~~Afgan~~ Iran - Pakistan - Afghanistan) and Golden triangle (~~Pa~~ Myanmar - Thailand - Laos)

⑥ Illegal fishing (eg) Sri Lanka Katchatheevu Island

⑦ Human trafficking via sea routes

⑧ Misuse of Free Navigation Rights
(eg) Surveillance ship of China (Yanje) in Sri Lanka

Robust Strategy

(I) Laws

① Anti ~~B~~ Piracy Act 2023 to navigate piracy attacks in high seas

② IT Act 2000 - Intelligence sharing to ensure quick deployment of force

(II) Institutional

① Naval Symposium to take stock of maritime issue

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए।
Candidates must not write on this margin

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(2) Intercoordination among State and Center

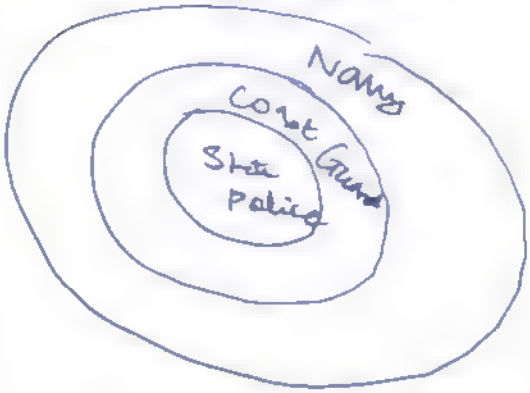

FIG. Coordination among forces

(III) Other measure

(1) Bilateral deals

(eg) Cambodia - India naval drill

(2) Rule based world order adherence

(eg) UNCLOS rules

(3) Network and data sharing

(4) Maritime border structures

(eg) electronic guarding posts

Maritime security poses challenge to India's security. Steps like coordination, information dissemination and international actions will help ensure maritime security

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)

निर्धारित समय: तीन घंटे
*Time Allowed: **Three Hours***

अधिकतम अंक: 250
Maximum Marks: 250

सामान्य अनुदेश

इस प्रश्न-सह-उत्तर (क्यू सी ए) पुस्तिका में 55+1 पृष्ठ हैं। प्रश्न-पत्र, क्यू सी ए पुस्तिका के अंत में संलग्न है, जो अलग (वियोज्य) किया जा सकता है और उम्मीदवार परीक्षा के उपरान्त अपने साथ ले जा सकते हैं।

रफ कार्य के लिए, इस पुस्तिका के अंत में खाली पृष्ठ दिया गया है।

पुस्तिका प्राप्त होने पर, कृपया यह जांच कर लें कि इस क्यू सी.ए पुस्तिका में कोई कमी न हो, फटा हुआ पृष्ठ न हो अथवा कोई पृष्ठ गायब न हो इत्यादि। यदि ऐसा हो, तो इसके बदले नई क्यू सी ए पुस्तिका प्राप्त कर लें।

General Instructions

This Question-Cum-Answer (QCA) Booklet contains 55+1 pages. Question Paper in detachable form is available at the end of the QCA Booklet which can be taken away by the candidate after examination.

For rough work, blank page has been provided at the end of this Booklet.

On receipt of the Booklet, please check that this QCA Booklet does not have any shortcomings, torn or missing pages etc. If, so, get it replaced with a fresh QCA Booklet.

(उम्मीदवार द्वारा भरा जाएगा/To be filled by the Candidate)

पंजीकरण सं./Registration No. : 00998375

अभ्यर्थी का नाम/Name of Student : NITISHA THAKWANI

माध्यम: हिंदी/अंग्रेजी
Medium: Hindi/English

ENGLISH

तारीख
Date

25/08/24

सामान्य अध्ययन (प्रश्न पत्र-III)
GENERAL STUDIES (Paper III)

केंद्र
Centre

Bhai Joga Singh, Delhi

निरीक्षक के हस्ताक्षर
Invigilator's Signature

	महत्वपूर्ण अनुदेश	Important Instructions
	उम्मीदवारों को नीचे उल्लिखित निर्देश सावधानी से पढ़ लेने चाहिए। किसी भी निर्देश का उल्लंघन करने पर उम्मीदवारों को मिलने वाले अंकों में कटौती, उम्मीदवारी रद्द या आयोग के परवर्ती परीक्षाओं के लिए वर्जित करने इत्यादि के रूप में दण्डित किया जा सकता है।	**Candidates should read the undermentioned instructions carefully. Violation of any of the following instructions may entail penalty in the form of deduction of marks, cancellation of candidature, debarment from further Examination of the Commission etc.**
1	(क) अपना पंजीकरण सं. एवं अन्य विवरण केवल प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) में उम्मीदवार के लिए निर्धारित स्थान पर ही लिखें। (ख) इस पुस्तिका में अन्यत्र कहीं भी अपना नाम, पंजीकरण सं., मोबाइल नं., पता अथवा प्रश्न-सह-उत्तर पुस्तिका (क्यू.सी.ए.) संख्या न लिखें जिससे आपकी पहचान का खुलासा हो।	(a) Write your Registration Number and other details only in the space provided in the Question-Cum-Answer (QCA) Booklet for candidates. (b) Do not disclose your identity in any manner such as, by writing your Name, Registration number, Mobile number, Address, Question-Cum-Answer (QCA) Booklet No. etc. elsewhere in the Booklet
2	अपनी प्रश्न-सह-उत्तर पुस्तिका में कहीं भी प्रश्नों के वास्तविक उत्तर के अतिरिक्त कुछ न लिखें जैसे कि कोई कविता/दोहा, अभद्र या अपमानजनक अभिव्यक्ति इत्यादि और न ही कोई ऐसा चिन्ह/निशान बनाएं जिसका उत्तर से सम्बन्ध न हो।	Do not write in the QCA Booklet anything other than the actual answer such as couplet, obscene, abusive expression etc., nor put any sign/mark having no relevance to the answer.
3	परीक्षक को प्रत्यक्ष/अप्रत्यक्ष रूप से कोई भी प्रार्थना/धमकी भरी बातें न लिखें।	Do not make any direct/indirect appeal/threat to the examiner.
4	उत्तर अस्पष्ट अथवा गंदी लिखावट में न लिखें। इस प्रकार के उत्तर का मूल्यांकन नहीं भी किया जा सकता है।	Do not write answers in bad/illegible handwriting. Such answers may not be evaluated.
5	उत्तर स्याही में ही लिखें। उत्तर लिखने के लिए पेंसिल का उपयोग न करें, हालांकि आरेख, चित्र इत्यादि बनाने के लिए पेंसिल का उपयोग किया जा सकता है।	Write answers in ink only. Do not use pencil for writing the answers. However, pencil may be used for drawing diagrams, sketches, etc.
6	प्रवेश पत्र में उल्लेख किए गए माध्यम के अलावा अन्य किसी माध्यम में उत्तर न लिखें। अधिकृत और अनधिकृत की मिली जुली भाषा का भी उपयोग न करें।	Do not write answers in medium other than the authorized medium in the Admission Certificate. Do not use mixed language either i.e. authorize and unauthorized media together for writing answers.
7	प्रश्नों के उत्तर ठीक उसके नीचे दिए गए निर्धारित स्थान पर ही लिखें। निर्धारित स्थान के अलावा किसी अन्य स्थान पर लिखे गए उत्तर का मूल्यांकन नहीं किया जाएगा।	Write answer at the specific space (right below the question) only. Answers written elsewhere at unspecified places in the booklet shall not be evaluated
8	यदि आप अपने किसी उत्तर को रद्द करना चाहते हैं तो उसे पेन से काट दें तथा उस पर "रद्द" लिख दें, अन्यथा उसका मूल्यांकन किया जा सकता है।	If you wish to cancel any work, draw your pen through it and write "Cancelled" across it, otherwise it may be valued.

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प्राप्तांक के विवरण (परीक्षक द्वारा भरा जाए)/ Marks Details (To be filled by the Examiner(s))

प्रश्न सं. Q. No.	अंक Marks		प्रश्न सं. Q. No.	अंक Marks	
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		
उप-योग (A) Subtotal (A)			उप-योग (B) Subtotal (B)		
सकल योग (A+B) / GRAND TOTAL (A+B)					

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सामान्य अध्ययन (प्रश्न पत्र-III)/GENERAL STUDIES (Paper-III) (2930)

निर्धारित समय: **तीन** घंटे Time Allowed: **Three** Hours	अधिकतम अंक: **250** Maximum Marks: **250**

प्रश्न-पत्र संबंधी विशेष अनुदेश

कृपया प्रश्नों के उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें:

*कुल **बीस** प्रश्न दिए गए हैं जो **हिंदी** और **अंग्रेजी** दोनों में छपे हैं।*

सभी प्रश्न अनिवार्य हैं।

प्रत्येक प्रश्न/भाग के लिए नियत अंक उसके सामने दिए गए हैं।

प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए, जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख-पृष्ठ पर निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।

प्रश्न संख्या 1 से 10 तक का उत्तर 150 शब्दों में तथा प्रश्न संख्या 11 से 20 तक का उत्तर 250 शब्दों में दीजिए।

प्रश्नों में इंगित शब्द सीमा को ध्यान में रखिए।

प्रश्न-सह-उत्तर पुस्तिका में खाली छोड़े गए कोई पृष्ठ अथवा पृष्ठ भाग को पूर्णतः काट दीजिए।

QUESTION PAPER SPECIFIC INSTRUCTIONS

Please read each of the following instructions carefully before attempting questions.

*There are **TWENTY** questions printed both in **HINDI** and in **ENGLISH***

All questions are compulsory.

The number of marks carried by a question/part is indicated against it.

Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in a medium other than the authorized one

Answers to Questions No. 1 to 10 should be in 150 words, whereas answers to Questions No. 11 to 20 should be in 250 words.

Keep the word limit indicated in the questions in mind.

Any page or portion of the page left blank in the Questions-cum-Answer Booklet must be clearly struck off

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1. खाद्य प्रसंस्करण उद्योग का तीव्र विकास किस प्रकार भारत में खाद्य सुरक्षा संबंधी चुनौतियां उत्पन्न कर रहा है? (उत्तर 150 शब्दों में दीजिए)

How is the rapid growth of the food processing industry leading to food safety challenges in India? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Food processing sector is considered to be a sunrise sector as it contributes to 11% jobs, 23% GVA, 39% manufacturing GVA.

However, it has food safety challenges

① Addition of preservatives to improve the shelf life of food products

② Trans fat - (eg) Oil addition, nitrogen flushing of chips packet

③ Issue of shelf life - perishable items may get attacked by microorganism due to poor supply chain storage facilities

④ Expiry period of food products → Companies may extend expiry period to enhance consumption

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उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

⑤ Taste and preferences of food products not in ~~line~~ line with the demand

⑥ Issue of safe transportation – due to delay, storage, etc

⑦ High logistics cost may increase cost of food products

⑧ Lack of standardized regulation by FSSAI

Way Forward

① Clear Regulations by FSSAI

② Resilience in Supply Chain

③ Consumer Awareness

④ R&D by PPP model

As envisaged in Budget 2024-25 enhanced contribution for storage (₹5000 crore) and cold chains will help in addressing food safety issues to meet SDG 2 (No hunger)

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2. भारत की सार्वजनिक वितरण प्रणाली के अंतर्गत उचित मूल्य की दुकान (FPS) का प्रारंभ एक विकासशील प्रक्रिया है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

Under the Public Distribution System of India, the Fair Price Shop (FPS) transformation is an evolving process. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए

Candidates must not write on this margin

Public distribution System (PDS) is a logistical marvel that has provided food security to 80 crore population through State managed Fair Price Shops (FPS)

FPS transformation — evolution taken place

① Point of Sale machine → electronized to reduce pilferage

② Use of CCTV to keep a check on input - output sales

③ Infrastructure enhancement (eg) Cold Storage, & clean storage place, mould control medicines, etc

④ Duration of running → Increased from 7 days to 14 days - for utilization of resources

⑤ Centralized database of all FPS for monitoring

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उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Issues still exist

1. Poor supply chain - time taken to transport food grains is long - & resulting in perishable items
2. Pilferage by shop owners
3. Charging higher than Central Issue Price (CIP - ₹2 for rice and ₹3 for wheat)
4. Shut down of FPS due to lack of accountability

Way Forward

1. Shanta Prasad Committee
   - ↳ RFID in FPS
2. Convert FPS to Jan Poshan Kendrajas
3. PPP model in R&D
4. Awareness among citizens

PDS as the backbone of food security and welfare needs of the poor can be strengthened through innovation and collective efforts by State & Centre

VisionIAS

3. भारत में एग्रीटेक स्टार्ट-अप्स किसानों की कृषि उत्पादकता एवं बाजार पहुंच बढ़ाने में किस प्रकार मदद कर रहे हैं? (उत्तर 150 शब्दों में दीजिए)

How are agri-tech startups in India helping farmers in enhancing farm productivity and market access? (Answer in 150 words) 10

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Agriculture employs 45% population, uses 83% of freshwater and utilizes 60% of land, making the role of agri-tech start ups very vital to transform the way of doing business.

Agri tech start ups

(I) Enhance Farm Productivity

(1) Pre Agriculture sowing

- Information dissemination
  - (eg) Chitrakoot app on suitability of crop
- Soil testing and weather forecast

(2) ~~Do~~ During sowing

- Efficient techniques of crop sowing
  - (eg) Fertigation of seeds information
- Availability of ~~tec~~ tools and machinery (eg) Custom hire Centers

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

③ Harvesting information
- ① Storage centers for farmers
- ② Information on timely harvesting

II Market Access
- ① Application on information of nearest APMC
- ② Collection at Farm Gate from the farmers eg FAMBO
- ③ Information on e-NAM Centers

Issues
- ① Low level of technology R&D
- ② limited public-private partnership
- ③ Lack of awareness among farmers

Way Forward
- ① Digital literacy
- ② Awareness
- ③ Technological Infrastructure

Thus, technology delivery through agri start ups can aid in doubling farm income (Dalwai Committee)

VisionIAS

4. भारत में भूमि सुधारों के प्रभावी कार्यान्वयन में भूमि अभिलेखों के डिजिटलीकरण की भूमिका पर चर्चा कीजिए। (उत्तर 150 शब्दों में दीजिए)

Discuss the role of digitization of land records in the effective implementation of land reforms in India. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Budget 2024-25 called for digitization of land records and cadestral maps for effective utilization of land resources.

Role of digitization of land records

① Effective land utilization due to clear ownership rights

② Reduce high litigation in courts

eg Bibek Debroy committee noted 66% of civil suits are land related

③ Promote economic development

⇒ It may add 0.48% to GDP (Debroy Committee)

④ Land identification for private utilization and infrastructure purpose

eg Land for railways

VisionIAS

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

⑤ Identification of farmer beneficiaries
⇒ 60% land under agriculture so disbursal of funds like PM-KISAN easier

⑥ Land consolidation → Average ownership is 1.08 Ha ⇒ enhance productivity due to consolidation of land

Steps taken
① DILRMP (Digitisation of land records)
② Bhu-AAD~~HAR~~HAR ~~and~~ ~~to~~ mention to land parcels
③ SVAMITVA Scheme for land screening
④ Cadastral map digitization (Budget 2025)

The unfinished business of Land Reforms as envisaged by JC Kumappa committee can be fulfilled through present efforts of land digitisation, which is an important factor of production.

5. भारत को अपने जनसांख्यिकीय लाभांश का पूर्ण उपयोग करने और आर्थिक विकास में तेजी लाने के लिए एक विनिर्माण-केंद्रित विकास मॉडल को अपनाने की आवश्यकता है। विवेचना कीजिए। (उत्तर 150 शब्दों में दीजिए)

To fully exploit its demographic dividend and accelerate economic growth, India needs to adopt a manufacturing-led growth model. Discuss. (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

India has entered its demographic dividend phase in 2018, which is expected to peak by 2055 in 37 years, which is going to contribute to India becoming developed by 2047.

Need for manufacturing led growth model

(I) For demographic dividend

① Job Creation

Currently, manufacturing sector employs 25% workforce ⇒ shift to job led growth via manufacturing

② Rajkiran Rajan Committee ⇒

Manufacturing is a flexible sector that can employ higher population

③ Promote ancillary growth As per World Bank 1% increase in contribution by manufacturing to GDP increases 2-3% jobs

④ Reduce disguised employment in agriculture sector

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

II Accelerate Economic Growth

① Experience from China led growth model ~~of~~ on manufacturing led growth

② Economic Survey 2024 → Export led growth through manufacturing via enhancing manufacturing capacity

③ Bottom to top growth – Enhance demand in rural areas due to manufat. growth – Demand led economic growth

Way Forward

① Skill development
(eg) Budget 2024 ⇒ ITI development

② Industry Academia linkage (Sharda Prasad Committee)

③ Infrastructure
(eg) ₹ 11.11 lac crore in Budget

Thus, manufacturing led growth will kickstart Indian economy, promote sustainable growth and aid in demographic dividend utilization

6. जलवायु परिवर्तन के परिणामस्वरूप बढ़ते प्राकृतिक खतरों से निपटने के लिए भारतीय तटीय समुदायों की प्रत्यास्थता को किस प्रकार मजबूत किया जा सकता है? (उत्तर 150 शब्दों में दीजिए)

How can the resilience of Indian coastal communities be strengthened to tackle the growing natural hazards resulting from climate change? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना है

Candidates must not write on this margin

India has 7500 coastline, making it vulnerable to natural hazards due to climate change

Ways to enhance resilience

LEGAL

① Disaster Management Amendment Act 2005

→ Include local level disaster team

→ Funds for mitigation

→ training of local communities

Institutional methods

① UDRF (Urban development response Fund)

② Aapada Mitra Scheme to train youth

VisionIAS

Other measures

→ Structural measures to build cyclone protection zones

→ Non structural measures - adhere to NDMA guidelines

These steps can help to protect lives and livelihoods & SDG 7.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

7. भारत में अधिक सधारणीय पर्यावरण को बढ़ावा देने के लिए ग्रीन क्रेडिट प्रोग्राम किस प्रकार कार्बन प्रबंधन से कहीं अधिक विस्तृत है? इसके कार्यान्वयन के संबंध में विभिन्न चिंताएं क्या हैं? (उत्तर 150 शब्दों में दीजिए)

How does the Green Credit Programme extend beyond carbon management to promote a more sustainable environment in India? What are the various concerns about its implementation? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Green Credit Programme (GCP) aims to provide credit incentive to companies promoting carbon management to address the issue of climate change

Beyond carbon management

1. Funds availability for R&D
2. Promote common but differentiated responsibility
3. Training on new technology
4. Skill development funds for transitioning to clean environment
5. International awareness to promote sustainable climate development

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उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Challenges

1. Non adherence to green climate rule
2. Greenwashing methods
3. Lack of funds to transition to new technology

Way Forward

1. Climate fund (UNFCCC COP 28)
2. Promote common but differentiated principle

Thus, GCP can promote growth with responsibility, stability with sustainability and growth with green approach

VisionIAS

8. जब पहले से ही अन्य उपग्रह नेविगेशन सिस्टम उपलब्ध है, तो NavIC की आवश्यकता क्या है? (उत्तर 150 शब्दों में दीजिए)

What is the need for NavIC when existing satellite navigation systems are already available? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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NAVIC (IRNSS) is an indigenous navigation satellite system, to reduce dependency on Global Positioning System (GPS) of USA.

Need for NAVIC

1. Security Issues — to utilize own data effectively in real time to secure border issues
2. Reduce dependency on USA → may be used as instrument of arm twisting
3. USA does not share all data which may be useful for India
4. Promote Atmanirbhar Bharat ⇒ Self reliance

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उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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(5) Utilize the development of India in space sector — role model for other countries

(6) Help Global south with data collection and security around border

(7) Range of ~~IRSNS~~ IRNSS (NAVIC) is 1500 km to keep an eye on neighbours and quick security deployment

Challenges
- (1) low R&D fund
- (2) Maintenance issue
- (3) Space debris

Way Forward
- (1) Signatory to Outer Space Treaty
- (2) operation netra (reduce debris)

With India space Policy 2023

India's development of NAVIC has made India a Vishwaguru on ground of self reliance led by technology

VisionIAS

9. साइबर-सक्षम वित्तीय अपराध वैश्विक धन शोधन (मनी लॉन्ड्रिंग) के नए क्षेत्र के रूप में उभरा है। चर्चा कीजिए। सरकार इस मुद्दे का समाधान किस प्रकार कर सकती है? (उत्तर 150 शब्दों में दीजिए)

Cyber-enabled financial crime has emerged as the new frontier of global money laundering. Discuss. How can the government address this issue? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Money laundering is the process of hiding the money earned illegally, is becoming more sophisticated through Cyber enabled financial crime.

Challenges

1. Ransomware - Rise in ransomware by 53%. (Ransomware Report 2023)
2. Digital Arrest of innocent individuals
3. It is non lethal yet crippling
4. Bitcoin enabled financial crimes to finance terrorist crimes
5. More sophisticated organized crimes by non-state actors
6. As per Microsoft, cybercrime can cost $25 billion by 2050

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उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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Ways Government has addressed

1. **Legal Measures**
   - Amendment of IT Act 2000 to define cybercrime and penalties
   - New Bharatiya Nyaya Sanhita (2023) penalizes cyber crimes
     - Inclusion of cybercrimes, amendment to Prevention of Money Laundering Act (PMLA) Act

2. **Institutional Measures**
   - ① Cyber Swachhta Kendras (CSK)
   - ② NATGRID to employ trained professionals to address cyber crime
   - ③ Cyber Dome by Kerala to address cyber crime

3. **Other**
   - ① Helpline number
   - ② Consumer Awareness, SMS, emails

Money laundering bleeds the economy which is accentuated by cyber crimes, needs holistic laws and institution to address it.

10. इंडियन आर्मी वर्ष 2024 को 'प्रौद्योगिकी समावेशन वर्ष (Year of Technology Absorption)' के रूप में मना रही है। इसके आलोक में, स्पष्ट कीजिए कि भारत के रक्षा क्षेत्रक में प्रौद्योगिकी के समावेशन की आवश्यकता क्यों है। इस पहल में भारत को किन चुनौतियों का सामना करना पड़ सकता है? (उत्तर 150 शब्दों में दीजिए)

The Indian Army is observing the year 2024 as the 'Year of Technology Absorption'. In light of this, explain why there is a need for technology absorption in the defence sector of India. What challenges can India face in this initiative? (Answer in 150 words) 10

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

As India entered the decade of TECHADE, technology is being utilized to upgrade the Indian Army through technology Absorption.

Need for technology in Defence

① New zone of warfare → cyber threat which is not ~~lethal~~ LETHAL yet crippling

② New technology used by state and non state (eg) UAVs - Drones for bomb attacks

③ New methods of recruitment and radicalization (eg) Telegram channel to woo youth of border areas

④ Involvement of State Actors (eg) Red Echo by China to attack power grid in Mumbai

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

⑤ Sophisticated means of attacks

(eg) Organized Crime and terrorism

Challenges

① Limited budget allocation in Defence

② Low R&D (0.64%) of GDP

③ Lack of training among Army & force personnel

④ High transition cost

⑤ Technology asymmetry between terrorists and Indian Army

Way Forward

① Deployment of technology (eg) 3D camera along India-Pakistan

② Skill development

③ Inter-country coordination

(eg) India - US - INDUS-X

Technology as a tool can support nefarious Acts of both state and non state actors to protect lives and Sovereignty of India

11. भारत के पूर्वोत्तर क्षेत्र (NER) में व्यापार एवं उद्योगों के विकास में किन समस्याओं का सामना करना पड़ा है? इन समस्याओं से निपटने हेतु किए गए उपायों पर टिप्पणी कीजिए। (उत्तर 250 शब्दों में दीजिए)
What are the issues faced in the development of trade and industries in the North-Eastern Region (NER) of India? Comment on the measures that have been taken to tackle these issues. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

As per 2nd ARC, North East Region is in the state of stable anarchy where law and order is subverted due to militant ideology by locals and collusive actions by people and institutions.

Issues faced by in development of trade and industry

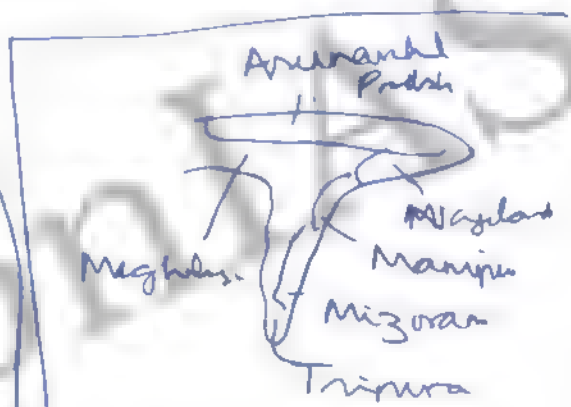

FIG: NER

① Infrastructure challenges
lack of ports, airports, roads

② Ethnic based clashes result in disruption of trade routes and industry (eg) Kuki-Meiti uprising led to shut down of TATA plant

③ Law and Order issue (As noted by 2nd ARC)

④ Border issue : 99% of NER shares borders with international countries

(eg) Myanmar influx of Rohingyas ⇒ ethnic clashes ⇒ disruption of trade routes

⑤ Tribal identity and implementation of 5th and 6th schedule that delays process of environment clearance

⑥ Laws like Forest Rights Act 2006 → delay commercialization of trade and industry

⑦ Low skill development in NER ⇒ limited pool of workers to function in local industries

Way Forward

① Infrastructure (eg) UDAN Airport, Road built (60,000km roads)

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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② Culture Integration - to promote migrants to relocate for industrial jobs

③ Trust and reconciliation among different ethnic communities to enhance stability (eg) Bru- and Tripuri reconciliation

④ Skill development + school building and local universities

⑤ International agreements on infrastructure (eg) Kaladan multi modal port, Sittwe port

Thus, confidence building measures (CBM), skill development and infrastructure will provide equitable development of trade and industry in NER, which is called the 'Heartbeat of India'

उम्मीदवारों को इस हाशिए में, नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

12. जलवायु परिवर्तन और बढ़ते जल संकट के युग में, सूक्ष्म सिंचाई प्रणालियां भारत में सधारणीय कृषि पद्धतियों में किस प्रकार योगदान दे सकती हैं? (उत्तर 250 शब्दों में दीजिए)

In the era of climate change and growing water scarcity, how can micro-irrigation systems contribute to sustainable agricultural practices in India? (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

As per IPCC, world temperature has risen by 1.2°C, resulting in climate change

As per NITI Aayog, water availability reduced by from

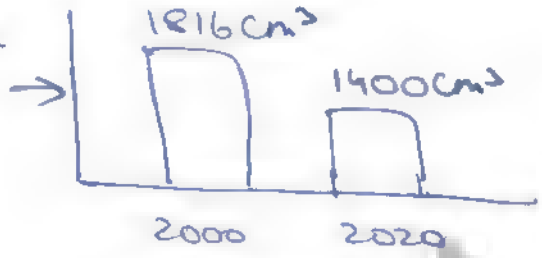


FIG water per capita per year availability

resulting in need for micro irrigation

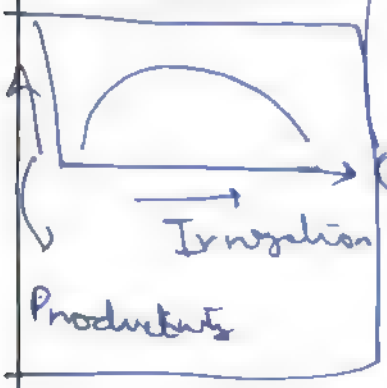
Why micro-irrigation?

① Agriculture consumes 83% fresh water

② Export of virtual water (through rice exports)

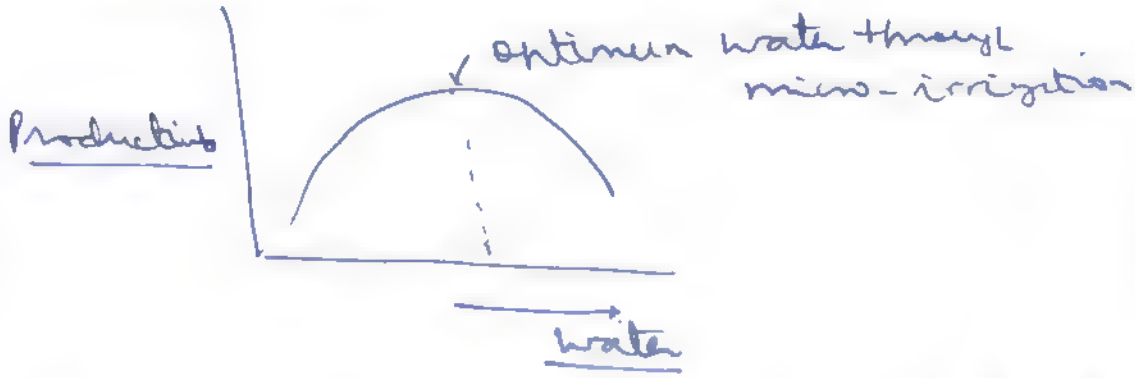
③ Cost of Domestic Resource Cost (DRC) (by Ashok Gulati)

④ Productivity reduction



Micro-irrigation - contribute to sustainable agriculture

① Productivity improvement



② Reduce input cost - water is a depleting resource, subsidy borne by the state

③ Effective water utilization on the roots (eg) drip irrigation

④ Address depleting ground water resources - 60% of groundwater used by farmers

⑤ Unscientific agriculture practices can be addressed (eg) Replace direct seed method with nursery based implants to reduce inundation of fields

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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⑥ Effective seed utilization as microinjector provides water at the roots.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Challenges

① Cropping pattern: paddy and sugarcane dominated ~~crop~~ which are water guzzling

② Subsidy by state ⇒ promote reckless use of water

③ Limited awareness among farmers on microirrigation facilities

Way Forward

① Agri-tech start ups to raise awareness

② Rationalization of water subsidies

③ Israel technology utilization on irrigation

④ Infrastructure to promote mechanization

Thus, as per Dalwai Committee microgation can promote sustainable agriculture through effective water utilization and uphold SDG 12 (responsible production & consumption)

VisionIAS

13. भारतीय रेलवे में माल परिवहन से संबंधित समस्याओं का समाधान करने तथा घरेलू माल ढुलाई में इसकी हिस्सेदारी बढ़ाने के लिए कौन-सी रणनीतियां अपनाई जा सकती हैं? (उत्तर 250 शब्दों में दीजिए)

What strategies can be adopted to overcome the issues pertaining to freight transportation in the Indian Railways and increase its share in the domestic freight? (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Indian Railways is the biggest across world with own 68000 km routes transporting over 1 bn ~~population every day~~. tonnes freight every day.

Ways to increase freight transportation

1. Infrastructure – Point to point railway networks (eg) Port to port connectivity in Indian mainland
2. Multimodal connectivity – rail – ship – road in freight
3. Freight corridors on the lines of Dedicated Industrial corridors
4. Expansion of Kisan rails with cold storage facility
5. Provide last mile connectivity

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(6) Route mapping to identify the busiest routes of freight transportation

(7) PPP model in railways (Bibek Debroy Committee)

(8) National monetization pipeline to unlock revenue of freight based railway

(9) Insurance scheme integrated with railway transportation to provide security to the owners

(10) Technology revamp (eg RFID tag on freight to address issue of robbery, theft

Challenge

(1) Poor last mile connectivity

(2) High cost of transportation to the railway station

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

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③ Supply chain constraints (eg) Trucks can reach remote areas but not by railways

④ Land acquisition slows for network to expansion

Way Forward

① Land acquisition simplier through digitization

② Last mile connectivity

③ Infrastructure upgradation (Budget 2025 – ₹2.25 lac)

④ Activity route mapping

Railways expansion can reduce logistics cost (13% to OECD = 9%) make Indian product more competitive and drive growth to make India developed by 2047.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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VisionIAS

14. उन कारकों पर चर्चा कीजिए जिन्होंने नवीकरणीय ऊर्जा क्षेत्र में प्रभावशाली प्रगति करने और वैश्विक नवीकरणीय ऊर्जा परिवर्तन में अग्रणी के रूप में स्थापित होने में भारत की सहायता की है। (उत्तर 250 शब्दों में दीजिए)

Discuss the factors that have aided India in making impressive strides in the renewable energy sector and establishing itself as a frontrunner in the global renewable energy transition. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

India is the 4th largest renewable energy country with 45% energy ~~needs~~ installed capacity from renewable sources

Factors aided in developing renewable energy

1. Natural resources — India being a subtropical region — sunlight for solar power
2. Government schemes (eg) PM-Surya Ghar Yojna, PM-KUSUM (farmer solar pumps)
3. Involvement of community (eg) 300 units free electricity to those installing solar electricity
4. ~~Secu~~ Securing supply chains (eg) PLI in solar modules

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

(5) International initiatives

(eg) One Sun - One World - One grid

(COP 26)

(6) Role of regional players

(eg) states like MP - led to REWA Plant - State led project

(7) Empowerment of the marginalized through renewable policy

(eg) PM-KUSUM for farms solar pumps

(8) Focus on R&D in PPP mode to invite funds from private sector

(9) Atmanirbharta in technology (eg) Indigenous solar cells

(10) Securing critical minerals for renewable energy (eg) Argentina - India initiative

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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

Challenges

1. High transition cost
2. Low job and job loss
3. Limited funds for development
4. High dependency of industry on coal
   - eg 56% electricity on coal
5. International pressure → non adherence to common but diff principles

Way Forward

1. R&D in PPP
2. Skill development
3. Push for financial aid from developed countries

As Economic Survey (2024) estimated rise of energy needs by 2.5X by 2030 and need for ~~$31 bill~~ $31 million by 2030 PPP and innovation along with skill development is needed to achieve SDG 7 (clean energy)

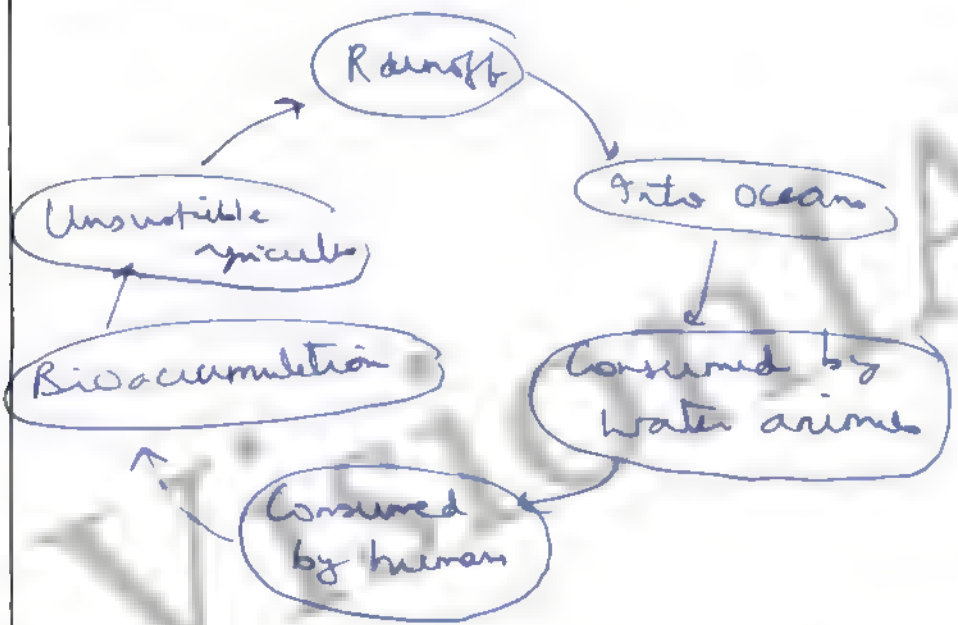
VISION IAS

15. उर्वरकों और कीटनाशकों से युक्त कृषि अपवाह पर्यावरण प्रदूषण में किस प्रकार योगदान देता है? कृषि अपवाह के प्रभाव को कम करने के लिए क्या उपाय अपनाए जा सकते हैं? (उत्तर 250 शब्दों में दीजिए)

How does agricultural runoff containing fertilizers and pesticides contribute to environmental pollution? What measures can be taken to mitigate the impact of agricultural runoff? (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
Candidates must not write on this margin

Agriculture runoff, containing fertilizer and pesticides flow into the ocean bodies, entering the food chain, affecting the entire ecosystem



Contribution to environmental pollution

1. Ocean life affected due to consumption by marine animals
2. Air pollution due to evaporation of water dissolved with fertilizer and pesticides

③ Water pollution → As precipitation with pesticides – result in acid rain

④ Wind pollution – due to transportation of pesticides under the influence of wind

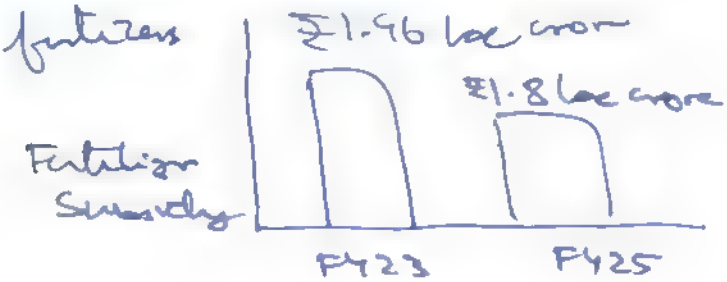
⑤ Entering the food chain → due to bioaccumulation and non dissolution in water by elements

Ways to mitigate

① Budget 2024-25 → Initiate 1 crore farms in the natural farming

② Innovation (eg) Biofertilizers and nano pesticides to reduce runoff (by IFFCO)

③ Reduced subsidy on agriculture fertilizers



उम्मीदवारों को इस मार्जिन में नहीं लिखना चाहिए
Candidates must not write on this margin

VISION IAS

(4) Awareness among farmers
↳ to reduce fertilizer and use natural manure

(5) Community projects (eg) GUBARDHAN to promote manure usage

(6) Zero Budget Natural Farming
↳ Pharmsa
→ Manure
→ Mulching
→ Fertilized seeds

(7) Role of agri tech start ups to provide support for new methods
(eg) Fertigation of seeds by FAMBO

Budget 2024-25 emphasis on climate smart agriculture aims to reduce fertilizer and pesticide for both well being of farms and environment.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
Candidates must not write on this margin

VisionIAS

16. हिमालयी राज्यों में पर्यटकों की बढ़ती संख्या ने उनके पारिस्थितिकीय समावेशन क्षमता को पार कर लिया है, जिसके कारण बड़े पैमाने पर मानव-जनित आपदाएं उत्पन्न हुई हैं। सधारणीय पर्यटन को बढ़ावा देते हुए ऐसी आपदाओं को रोकने के लिए क्या उपाय किए जा सकते हैं? प्रासंगिक उदाहरणों के साथ चर्चा कीजिए। (उत्तर 250 शब्दों में दीजिए)

The growing influx of tourists in Himalayan states has breached their ecological carrying capacity, leading to significant man-made disasters. What measures can be implemented to prevent such disasters while promoting sustainable tourism? Discuss with relevant examples. (Answer in 250 words) 15

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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The recent disasters like Joshimath land subsidence, landslide in Himachal Pradesh, cloudburst in Uttrakhand reflect the breaching of ecological carrying capacity

Growing influx of tourists

⇓

Unsustainable activities
(eg) Deforestation for hotels, tourist activities like river rafting

⇓

Breach of ecological carrying capacity

⇓

Man made disasters

- → Loss of lives
- → Impact on biodiversity
- → Loss of livelihoods
- → Destruction of Himalayan ecosystem

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Measures to prevent disasters

1. Sustainable tourist practices

   eg Amarnath Yatra pilgrims ~~incentivized~~ incentivized to recycle plastic bottles using QR code refund

2. Land mapping and Zonation

   Mapping areas more susceptible to disasters and keep it for non-commercial usage

3. Strict Environment Impact Assessment (EIA) in hilly areas

4. Licence renewal required for all tourist hotels and stays

5. Warning dissemination to the tourists in case of impending danger

6. Community led development activities to make development more sustainable

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(7) International best practices (eg) In Japan, Mt Fukuyiso tourist spot shut down in summer due to visible habitat destruction of ~~[illegible]~~ local animals

(8) Proper infrastructure (eg) Roads leading to Kullu from Manali made of geotextile more sustainable

Issues
- (1) Lack of tourist sensitivity
- (2) Poor enforcement
- (3) Profit motive of local tourist guides
- (4) Lack of awareness among locals

The government's decision to expand National Mission of Himalayan Ecosystem (NAMSHE) under NAPCC along with role of state and locals can preserve Himalayan Ecosystem

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17. सुपरकंडक्टर्स विज्ञान एवं प्रौद्योगिकी के विभिन्न क्षेत्रकों में नवाचार को किस प्रकार बढ़ावा देते हैं? उदाहरण सहित स्पष्ट कीजिए। (उत्तर 250 शब्दों में दीजिए)

How do superconductors fuel innovation in diverse fields of science and technology? Illustrate with examples. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए

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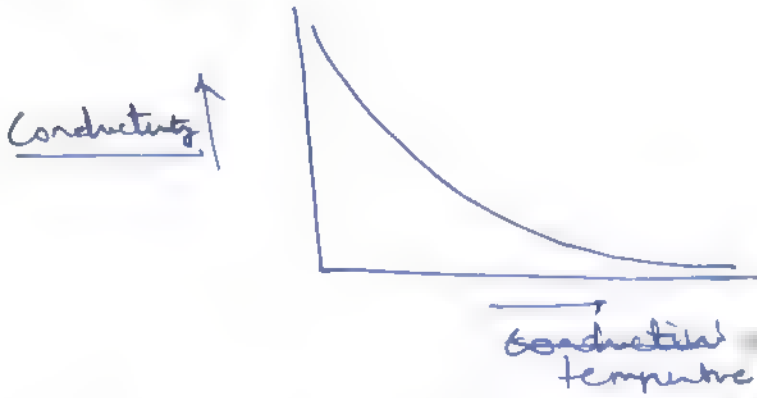
Superconductor are materials that have 0 resistance at a particular temperature



It results in infinite conductivity where electrons flow at infinite speed at all temperatures.

Role of Superconductor in fields of Science and Technology

1. In nanotechnology
   - → Role of nano-fibers to conduct electricity without resistance
   - → nano cathode tubes - in TVs to provide quick image capturing real time

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② In ~~semico~~ electronics

└ ① Chip fabrication unit – quick fabrication with precise outcome

③ In ~~robotics~~ robotics

└ ① Robotic surgery through superconductor

└ ② Robotic drug delivery – with precise, real time mapping

④ In transportation

└ ① Vacuum tubes → for faster transportation of freight and passengers

⑤ In space technology

└ ① Powering of spaceflights in space – especially in crew mission

└ ② Support space stations with round the clock electricity

⑥ In clean energy

└ ① Clean fusion reaction – not

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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yet operationalized

② Generation of high temperature Plasma to sustain fusion reaction

⑦ In Quantum Computing

① To obtain material at subatomic level

② Utilization of superimposition and entanglement using superconductor

Challenges

① R&D Low (0.64%)

② Infrastructure poor

③ Poor Innovation Index Ranking (42/55)

④ Only 3 out of 500 Indian universities in QS ranking

Thus, with compact between public and private sector (Economic Survey 2024) superconductivity technology can be developed which will drive innovation in the spirit of JAI ANUSANDHAN

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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18. यद्यपि भारत में लगभग सभी प्रकार के बौद्धिक संपदा अधिकारों को कवर करने वाले कानून मौजूद हैं, फिर भी अनेक प्रवर्तन संबंधी, विनियामकिय और प्रशासनिक चुनौतियां भारत में बौद्धिक संपदा अधिकारों के व्यावसायीकरण में बाधा उत्पन्न करती हैं। सविस्तार वर्णन कीजिए। (उत्तर 250 शब्दों में दीजिए)

While India has laws covering almost all types of intellectual property rights, numerous enforcement, regulatory and administrative challenges hamper the commercialisation of IPRs in India. Elaborate. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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Intellectual property Right aim at protecting and preventing misuse of creative innovative intangible human assets.

IPR in India

① As per Berne and Paris Convention — to promote R&D in intellectual property and aid in monetization of intellectual innovation of human minds

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Enforcement Issues

1. Vacancy in body enforcing IPRs in India resulting in violations
2. Pendency in court due to appeal by private players (eg) Johnson and Johnson appealed against ban of Bedaquille medicine
3. Ambiguity in definition of certain terms results in weak enforcement

~~Administrative~~ Regulatory Challenges

1. IPR section like 3(d) → prevent Greenwashing – difficult to categorize what is greenwashing
2. Section 56 → Compulsory Licencing deter market players to enter India
3. Adverse Court adjudication (eg) High Court rejected repatent of Potatoes by Pepsico
4. Ambiguity (eg) Rasgulla GI tag between Odisha & W.Bengal

उम्मीदवारों को इस क्षेत्र में नहीं लिखना चाहिए
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Administrative challenges

1. Limited training among employees
2. Manual clearance of patents result in Rent seeking
3. Lack of awareness of procedure among private players

Way Forward

1. DPIIT + Single window clearance for patent approval
2. FAQ document for players
3. Rule clarity and R&D support infrastructure to innovator
4. Fast track courts to expedite issues

As India is the 6th largest patent holder country, support through clear rules, R&D and innovation will help India move forward towards Viksit Bharat coupled with scientific temper.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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19. एकीकृत थियेटर कमान का निर्माण करने में सामना की जाने वाली चुनौतियों को ध्यान में रखते हुए, परीक्षण कीजिए कि कमानों का थिएटराइजेशन किस प्रकार तीनों सेनाओं के बीच जनशक्ति और संसाधनों के बेहतर एकीकरण और युक्तिकरण को बढ़ावा दे सकता है। (उत्तर 250 शब्दों में दीजिए)

Keeping in view the challenges in creating integrated theatre commands, examine how the theaterisation of commands can lead to greater integration and rationalisation of manpower and resources among the three services. (Answer in 250 words) 15

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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BP Reddy committee's called for integration of theater command for greater integration and rationalization of manpower and efficient resource utilization.

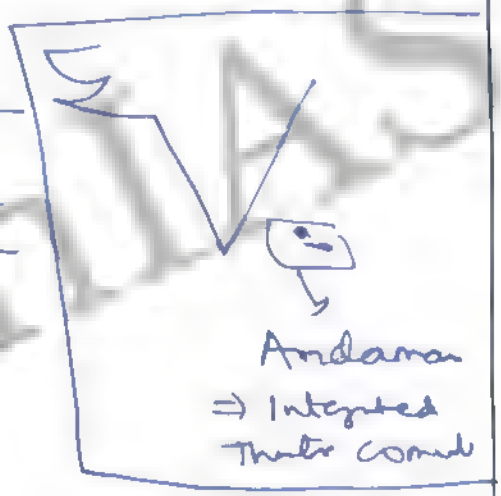
Challenges in creating integrated theate command

① Different structure of the 3 military arms

② 3 different head of each military arm - result in power tussle

③ separate financial resources for each military organization - difficult to pool in resources

④ Territorial differences → eg Navy in



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responsible for effective water ways management.

⑤ Dilution of security challenges (eg) Border dispute with China needs Army deployment

⑥ New emerging challenges may not be effectively addressed

(eg) Jammu terror rising due to low Army deployment post India-China Galwan valley clashes (2020)

Still it helps in following way

(I) Integration of manpower

① Effective utilization of manpower wherever required due to one single command structure

② Collective efforts wherever the need be

③ Holistic tackling of issue as the battle ground of war is dynamic.

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(4) Reduced time to reach to the desired area

(5) Inter service training → effectively helps in tackling the adversaries

(II) Efficient resource utilization

- (1) Financial resources - pooled for collective utilization
- (2) Defence equipment → interoperable
- (3) Training bases → common utilization
- (4) Data resource → sharing among the tri-services - more streamlined and effective

Steps like common training, integration through hierarchical reforms can help in integration of theatre commands for meeting the evolving security challenges.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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20. सीमावर्ती गांवों को न केवल भौगोलिक दृष्टि से बल्कि सुविधाओं के मामले में भी प्रथम गांव मानना, सीमा सुरक्षा बढ़ाने की एक प्रमुख रणनीति हो सकती है। विवेचना कीजिए। साथ ही, इस संबंध में सरकार द्वारा किए जा रहे उपायों पर भी प्रकाश डालिए। (उत्तर 250 शब्दों में दीजिए)

Treating border villages as first villages not just geographically but also in terms of facilities can be a key strategy for enhancing border security. Discuss. Also, highlight the measures being taken by the government in this regard. (Answer in 250 words) 15

उम्मीदवारों के इस हाशिए में नहीं लिखना चाहिए
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The Prime Minister in 2023 called to ~~bec~~ rename border villages not as the LAST VILLAGES but the first villages to focus on community led security.

Facilities needed at borders - Why?

① People should act as eyes and ears of the security forces

② Complement the security forces

eg Tashim village in Jammu → villagers caught a terrorist and handed over to police

③ New methods of security breaches

eg Cybersecurity issues, radicalisation of youth via media

④ Limited reach of police forces in border areas

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⑤ Development deficit in border areas resulting in alienation among villagers

⑥ New methods like Underground tunnels, sleeper cells difficult to be suborated by the border security forces.

⑦ Lack of ground level understanding of situation by border forces - need support of locals to unearth secret routes

Issues in border security

① Lack of infrastructure → alienation among people

② Limited jobs for youth → take up terrorist supporting activities

③ Technology → (eg) Telegram channels to brainwash youth in border areas

④ Organized crime supported by villagers.

उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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उम्मीदवारों को इस हाशिए में नहीं लिखना चाहिए
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STEPS by Government

1. Border road development (eg) 60% of China-India road built in 2011-2023
2. Exemption of Environment Impact Assessment (EIA) around borders
3. Village defence Committee and Guards to train villagers to help in security measures
4. Role of technology to enhance awareness among villagers
5. Communication channels like helpline between police and villagers

People should be treated as local to security forces along village borders to enhance security and uphold territorial integrity of India.

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